Issue 208
P.S
1970 Series
March
THE PREVENTIVE MAINTENANCE MONTHLY
KAPOW
BANG
BANG
BANG
ZING
KWANG
HEY, GEORGE... HOLD 'EM OFF 'TIL I DO THIS BEFORE-OPERATIONS MAINTENANCE!
TM
PU-TING!
POW
Will Eisner

WHERE, OH, WHERE DID YOUR PLL MAN GO?

There's been a big squawk in a lotta outfits because so many men who don't know supply get assigned to repair parts supply jobs.

Maybe you've been wondering why you've been having such a rough time getting repair parts to keep your equipment maintained. It could be just what was said: No trained repair parts PLL supply man.

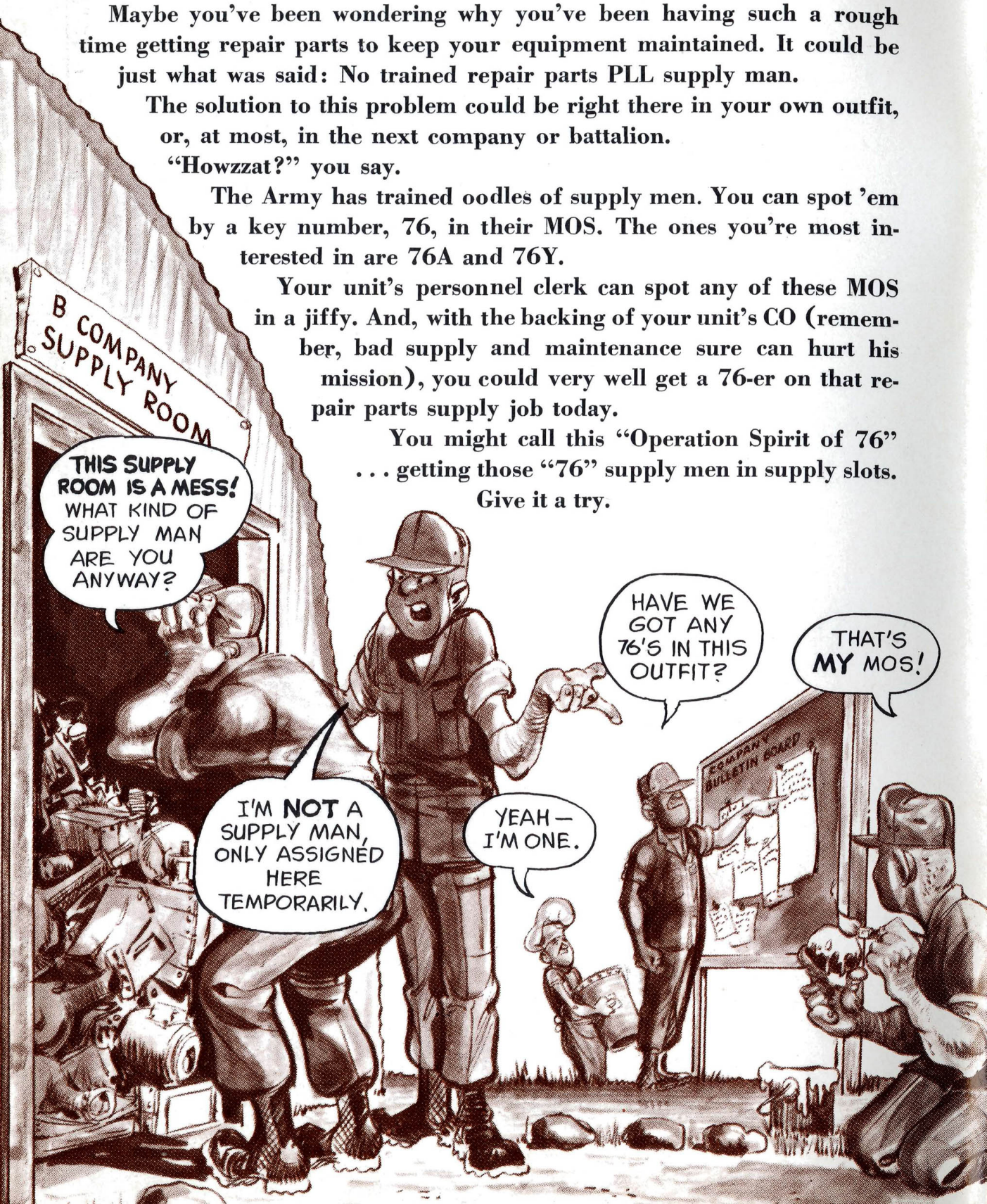
The solution to this problem could be right there in your own outfit, or, at most, in the next company or battalion.

"Howzzat?" you say.

The Army has trained oodles of supply men. You can spot 'em by a key number, 76, in their MOS. The ones you're most interested in are 76A and 76Y.

Your unit's personnel clerk can spot any of these MOS in a jiffy. And, with the backing of your unit's CO (remember, bad supply and maintenance sure can hurt his mission), you could very well get a 76-er on that repair parts supply job today.

You might call this "Operation Spirit of 76" . . . getting those "76" supply men in supply slots. Give it a try.



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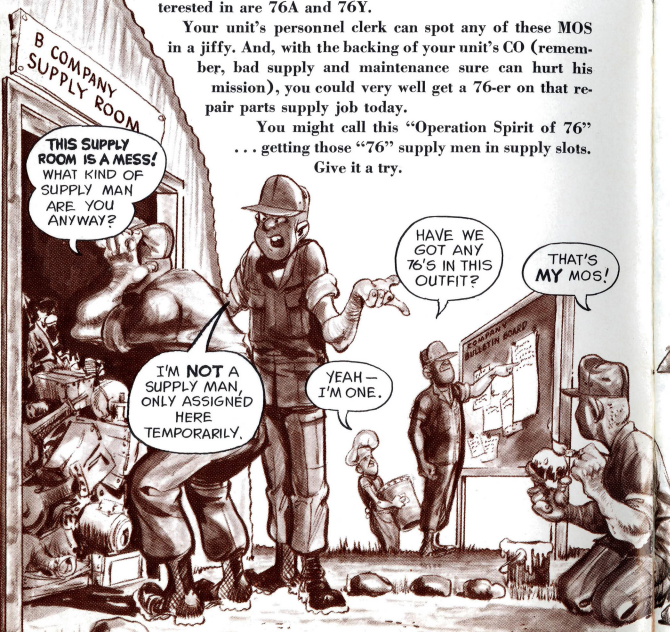

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Issue No. 208 1970 Series
March

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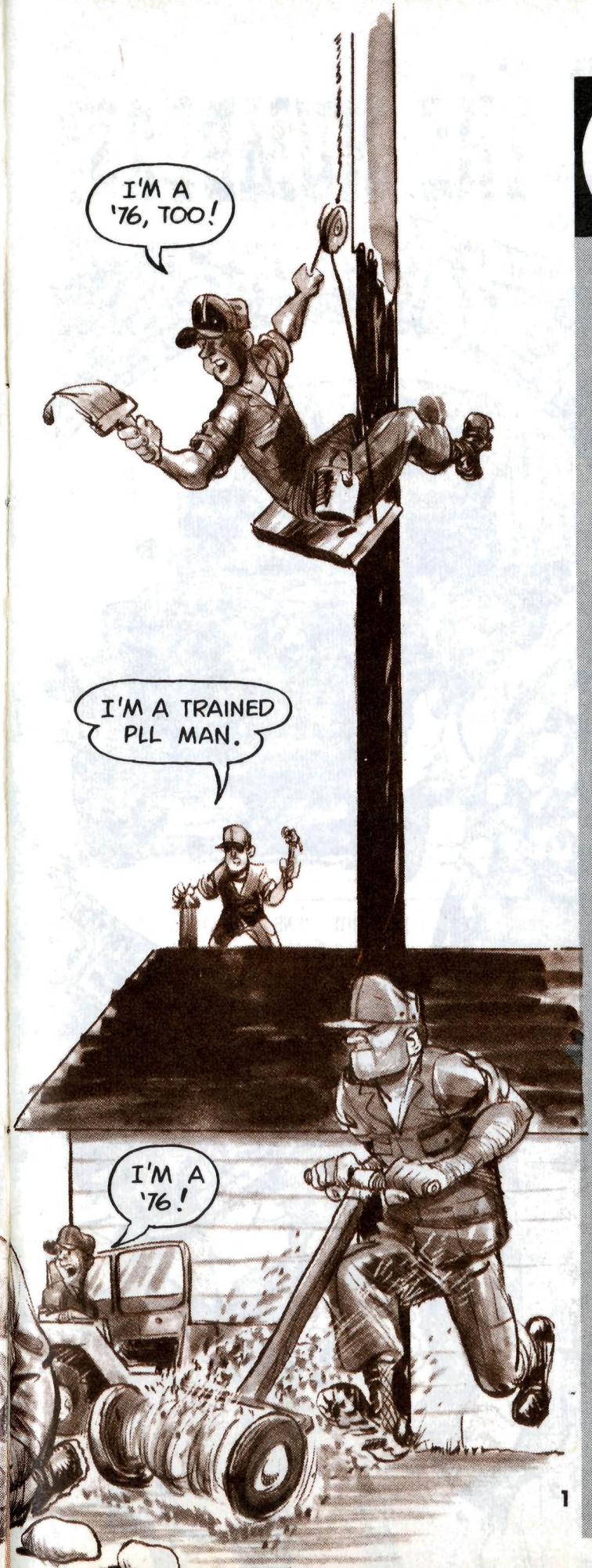
Sgt. Half-Mast,
PS Magazine,
Fort Knox, Ky.
40121



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CHECK OUT YOUR TRUCK...

BY THE NUMBERS...

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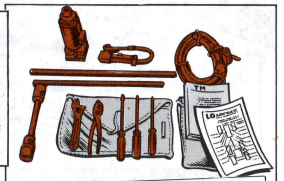
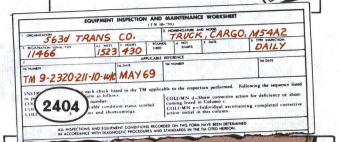
1 **TOOLS AND EQUIPMENT:** Start at the left front of your vehicle. Make sure you have all the tools assigned to the vehicle and the operator's manual. If the vehicle is required to have a fire extinguisher, make sure it's on hand, serviceable, and mounted correctly. Fill out top of DA Form 2404, but leave off the date and signature.



2 **DAMAGE:** At the front of the vehicle, check these items for damage:


EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET
TRUCK, CARGO, M54A2
DAILY
TM 9-2320-211-10-HR MAY 69
2404

a. Fenders: Dents, splits, rust spots, missing or loose nuts and bolts?

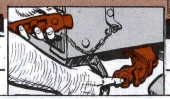
b. Grill: Breaks, missing or loose nuts and bolts?

c. Radiator: Leaks? Bent or punctured tubes? Obstructions in the radiator core?

d. Lights: Cracked lenses, loose mounting rims? All lights secure?

e. Bumper: Dents, broken welds, loose or missing nuts and bolts? Any spots need painting?

f. Hood: Dents, cracks, missing or loose bolts? Any spots require repair or paint?



g. Airline connections: Dummy couplings in place? Connectors damaged?

MORE

BEFORE OPERATION

Front of Vehicle Checks

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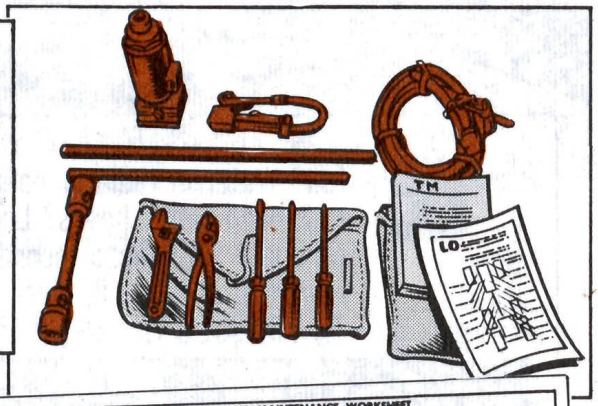

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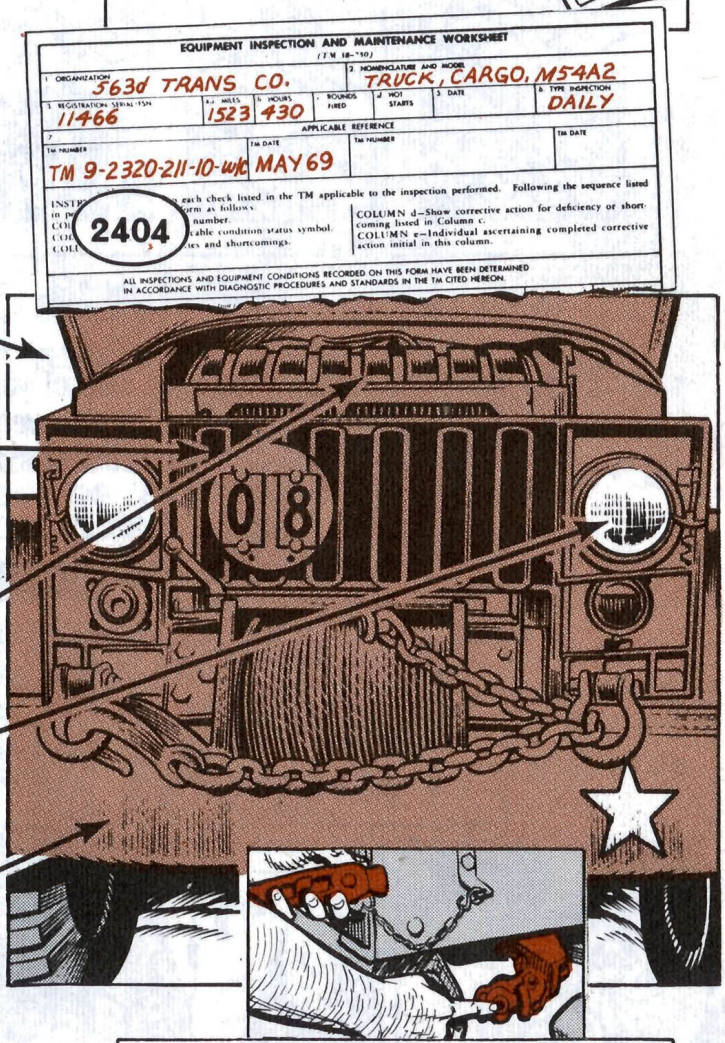

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET
(TM 10-750)

1 ORGANIZATION	2 NOMENCLATURE AND MODEL					
563d TRANS CO.	TRUCK, CARGO, M54A2					
3 REGISTRATION SERIAL NO.	4a MILES	4b HOURS	5 ROUNDS FIRED	6 HOT STARTS	7 DATE	8 TYPE INSPECTION
11466	1523	430			DAILY	

APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER	TM DATE
TM 9-2320-211-10-w/c	MAY 69		

2404

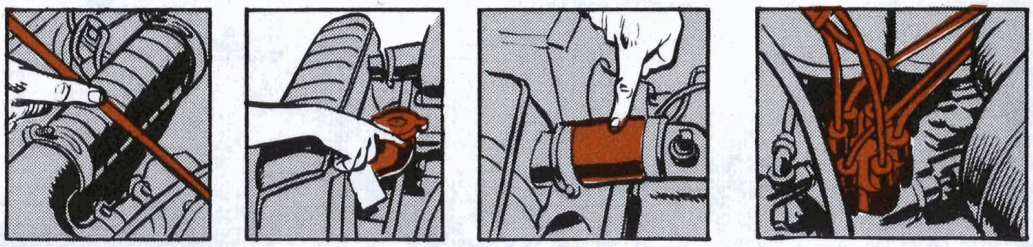
ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

g. Airline connections: Dummy couplings in place? Connectors damaged?

PS MORE

3 **LEAKS:** On the ground or underside of vehicle?

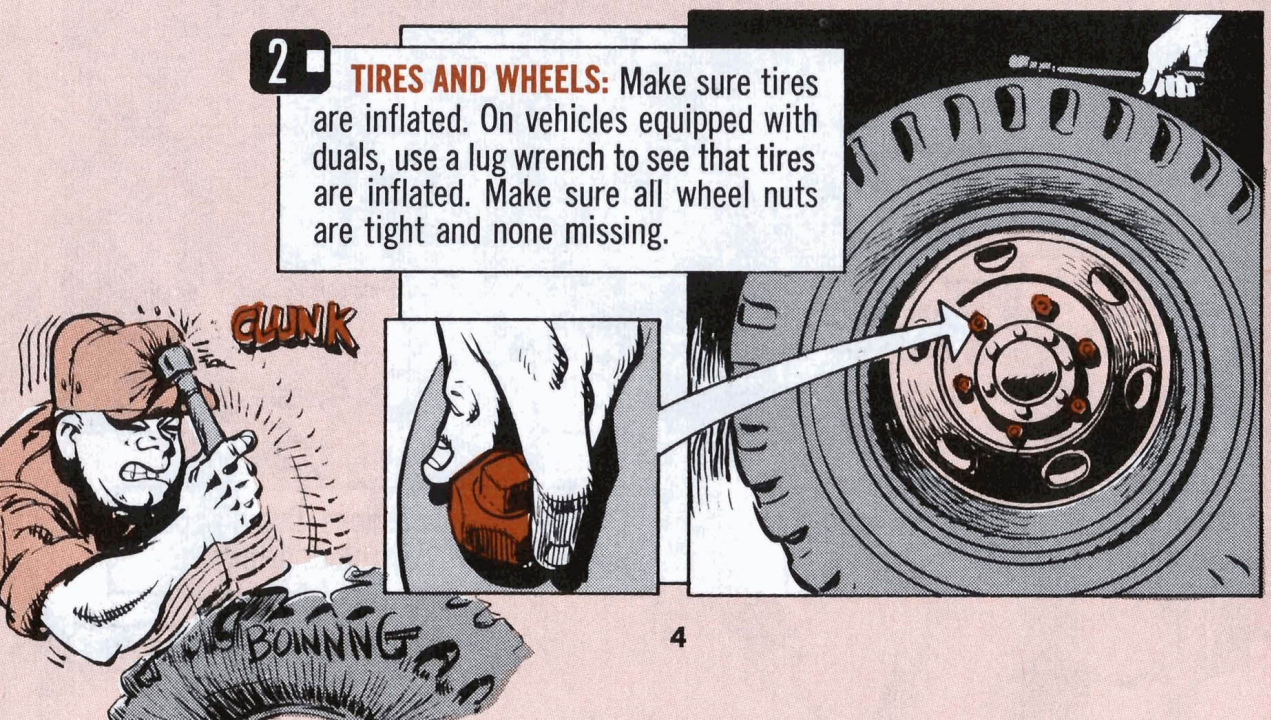
4 **OIL AND WATER LEVELS:** Oil level at the FULL mark? Not overfull? Water in radiator cover the end of tubes? Cracked, loose, or broken water hoses? Loose parts? Broken or leaking fuel or oil lines? Antifreeze recorded on monthly DA Form 2408-1? (For multifuel engine oil check procedure, see PS 205, Page 54, or TB 750-981-3 (Jul 69), Article 3-8.)

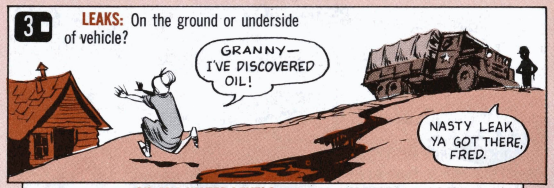


Right Side

1 **DAMAGE:** Inspect the right side of your vehicle for any damage which might have occurred after the vehicle was parked the night before. This should include such items as broken windows, dents, scratches, etc.

2 **TIRES AND WHEELS:** Make sure tires are inflated. On vehicles equipped with duals, use a lug wrench to see that tires are inflated. Make sure all wheel nuts are tight and none missing.





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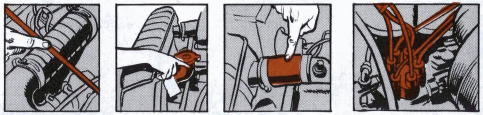

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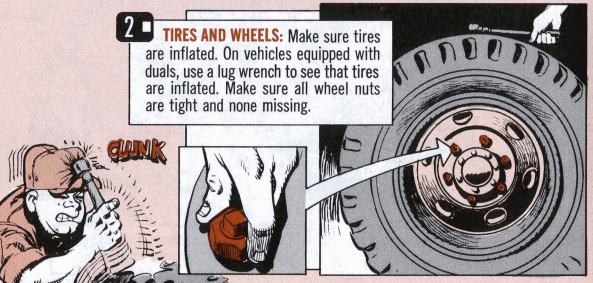
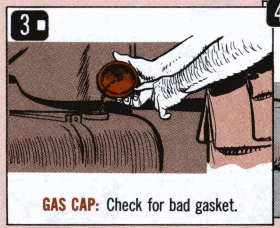
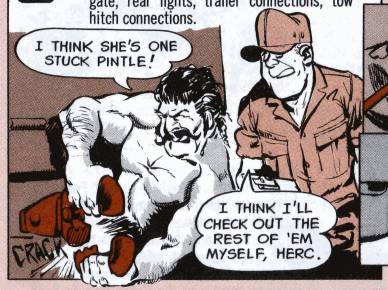


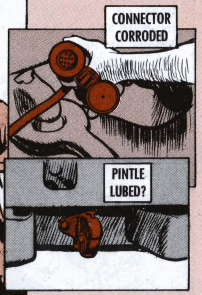


4 **LEAKS:** Look for leaks on the ground and underside of vehicle. Pay particular attention to inside of wheels, around transmission, transfer cases, crankcase, and differentials.

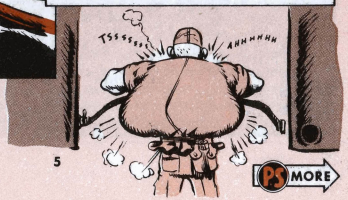
Rear

1 **DAMAGE:** Look for any damage to tailgate, rear lights, trailer connections, tow hitch connections.





2 **AIR HOSE CONNECTIONS:** Check for any damage to connections, and see that dummy couplings are in place. If the vehicle is connected to a trailer, make sure all lines are connected right.



PS MORE

3

GAS CAP: Check for bad gasket.

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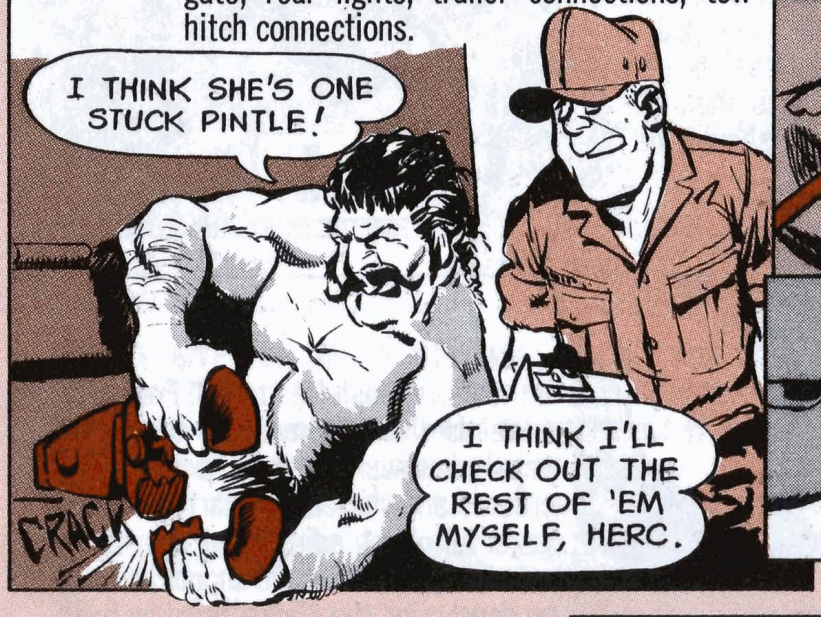

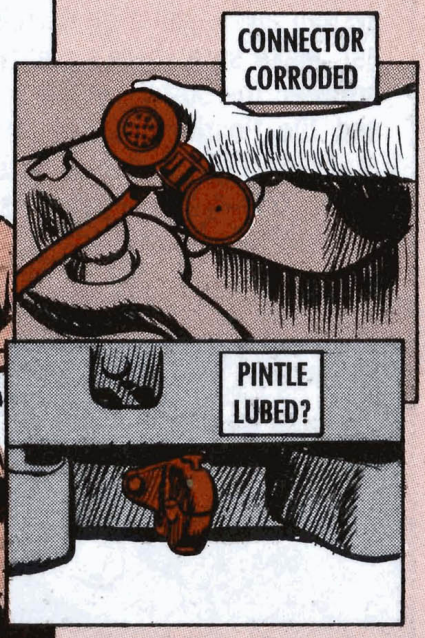

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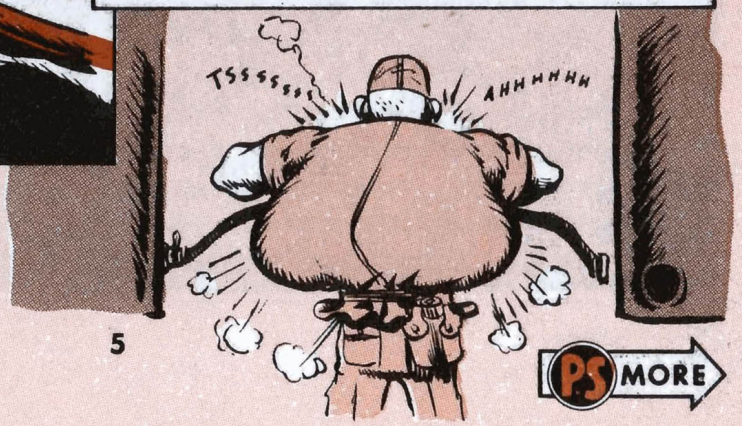
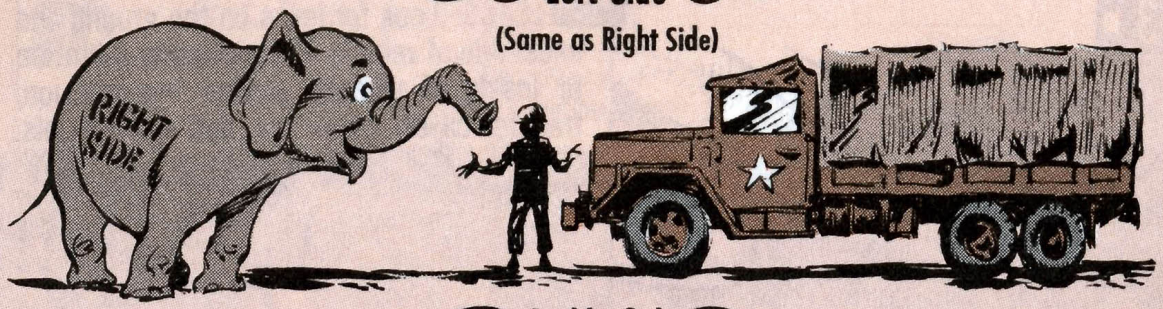


PS MORE

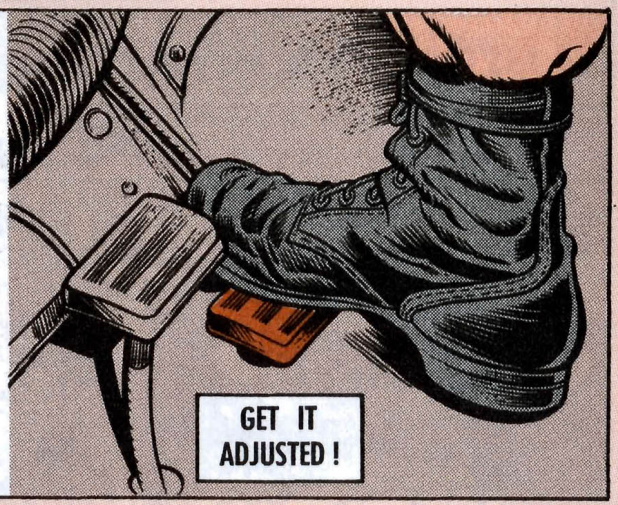
Left Side

(Same as Right Side)



Inside Cab

1 **BRAKE PEDAL:** Depress the brake pedal and hold down. The brake pedal should not creep down. If a loss of foot pressure is noted, there's a leak in the system and it must be corrected soonest. Make sure there's plenty of space between the bottom of the brake pedal and the floorboard when pedal is depressed. If the space is less than ½ pedal travel, the brakes should be checked and adjusted.



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CLUTCH PEDAL ADJUSTMENT: See if there is enough free travel. Free pedal travel is the movement of the clutch pedal downward before pressure increases and the clutch starts to disengage. All clutch adjustment checks are extremely sensitive and should be made by depressing the clutch pedal by hand, not with the feet.

	Clutch pedal free travel must be no less than
¼-ton (M151A1 etc.) — TM 9-2320-218-20 (Aug 68), para 2-44	1⅛ inches
¾-ton (M37B1 etc.) — TM 9-8030 (May 55), para 187	1 inch
1¼-ton (M715 etc.) — TM 9-2320-244-20 (Oct 68), para 02-4c	¾ inch
2½-ton (M35A2 etc.) — TM 9-2320-209-20 (Apr 65), para 150a	1½ inches
5-ton (M54A2 etc.) — TM 9-2320-211-20 (Mar 63), para 158a	2 inches
10-ton (M125 etc.) — TM 9-2320-206-20 (Apr 66), para 2-69a	1 inch

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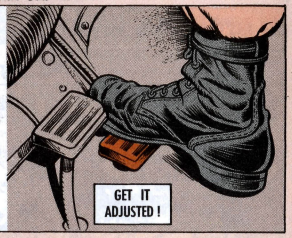

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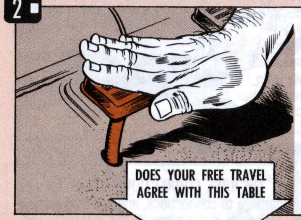

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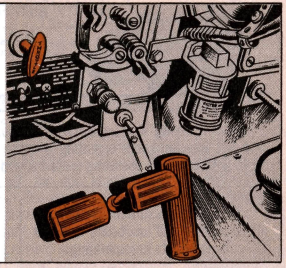
Start Engine

3 **UNUSUAL NOISES:** Run engine at a fast idle (do not "race" or "gun" engine) and check under the hood of vehicle. If you hear any unusual noises, turn off the engine immediately, and call your supervisor. If oil gage does not indicate pressure within a few seconds, stop the engine, and call your supervisor.

4 **ENGINE CONTROLS:** Check engine controls, including the accelerator, throttle, and choke, to see that they are functioning properly.



5 **INSTRUMENT CHECK:** After the engine has been warmed up by idling for approximately 3 minutes, the instruments may be checked as follows:

a. Oil Pressure: Oil pressure — when engine is idling — should register not less than 15 pounds. Pressure indicates engine oil pump is working. But, remember, oil pressure does not mean the crankcase is full! Pressure readings may go up or down as engine speed is increased or decreased, but a sudden drop or uneven change of pressure indicates trouble. Stop the engine and find out what's causing it.

b. Battery-Generator Indicator: With switch ON (engine not running), needle should register 2/3 up in the yellow panel; with engine running at high idle (about 1,500 RPM), needle should register 2/3 up in the green panel (at the nub).

c. Tachometer: Tachometer should be registering the RPM of the engine.

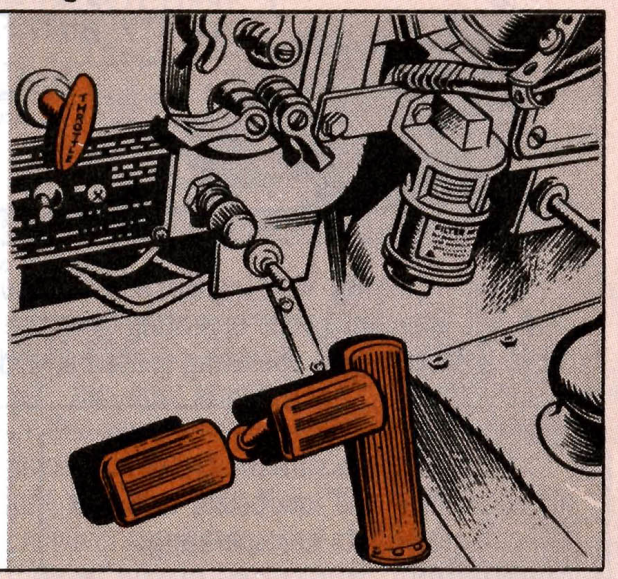
d. Fuel Gage: Fuel gage should register full if the previous operator did his last after operation check.

e. Air Brake Pressure (if applicable): This gage should indicate the pressure at which the brakes will operate effectively. (100 to 105 PSI for 2½ and 5 ton trucks.)

f. Temperature Gage: Normal range is from 160 to 180 degrees.

PS MORE

3 ■ UNUSUAL NOISES: Run engine at a fast idle (do not "race" or "gun" engine) and check under the hood of vehicle. If you hear any unusual noises, turn off the engine immediately, and call your supervisor. If oil gage does not indicate pressure within a few seconds, stop the engine, and call your supervisor.



4 ■ ENGINE CONTROLS: Check engine controls, including the accelerator, throttle, and choke, to see that they are functioning properly.

5 ■ INSTRUMENT CHECK: After the engine has been warmed up by idling for approximately 3 minutes, the instruments may be checked as follows:

a. Oil Pressure: Oil pressure — when engine is idling — should register not less than 15 pounds. Pressure indicates engine oil pump is working. But, remember, oil pressure does not mean the crankcase is full! Pressure readings may go up or down as engine speed is increased or decreased, but a sudden drop or uneven change of pressure indicates trouble. Stop the engine and find out what's causing it.

b. Battery-Generator Indicator: With switch ON (engine not running), needle should register 2/3 up in the yellow panel; with engine running at high idle (about 1,500 RPM), needle should register 2/3 up in the green panel (at the nub).

c. Tachometer: Tachometer should be registering the RPM of the engine.

e. Air Brake Pressure (if applicable): This gage should indicate the pressure at which the brakes will operate effectively. (100 to 105 PSI for 2½ and 5 ton trucks.)

d. Fuel Gage: Fuel gage should register full if the previous operator did his last after operation check.

f. Temperature Gage: Normal range is from 160 to 180 degrees.

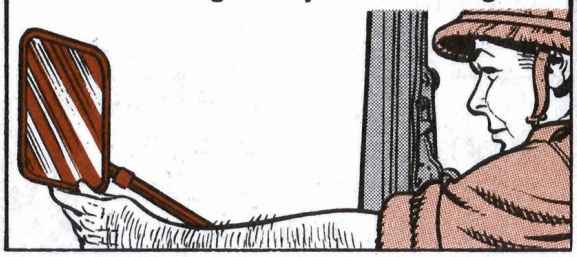
PS MORE

6 ■ SAFETY DEVICES:

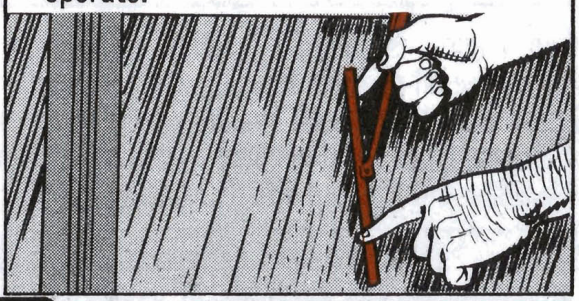
a. Air Pressure Warning Buzzer: This buzzer is a low pressure warning device and will buzz until your operating pressure reaches 65 PSI. Do not move your vehicle until you have operating pressure, and the warning buzzer has stopped.

b. Lights: Make sure they're all burning, both high and low beam, and that tail and stop lights are operating.

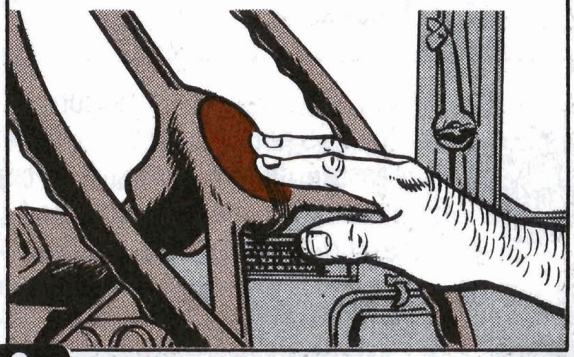
c. Mirrors: Make sure the mirrors are not damaged. Adjust for driving.



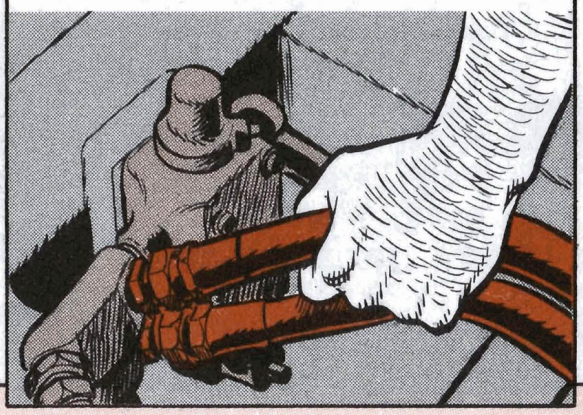
d. Windshield Wipers: Make sure blades are in good condition and wipers operate.



e. Horn: Make sure it blows.



7 ■ DUMP HOIST (if applicable): Raise and lower the dump body to make sure it will operate. Check for leaks.



8 ■ ACCIDENT REPORT AND IDENTIFICATION FORMS: Make sure you have Accident Report and Identification Forms in the glove compartment (Std Form 91 and DD Form 518).

DURING OPERATION

There is no set time for making the during operation checks; however, they should be made periodically during the day, as necessary.

While Driving

1 BRAKE ADJUSTMENTS: Make sure all wheels are braking equally. Notice any loss of pressure in the pedal when you apply the brakes.

2 UNUSUAL NOISES: Keep a sharp ear for any unusual noises in the engine, clutch, transmission, transfer case, drive shaft and rear end. An unusual noise is any noise you do not normally hear during operation.

3 STEERING: Be sure there's not too much free play in your steering wheel. Notice any hard steering, wheel wobble, or wandering of your vehicle from side to side. If you think something is wrong, stop and check.

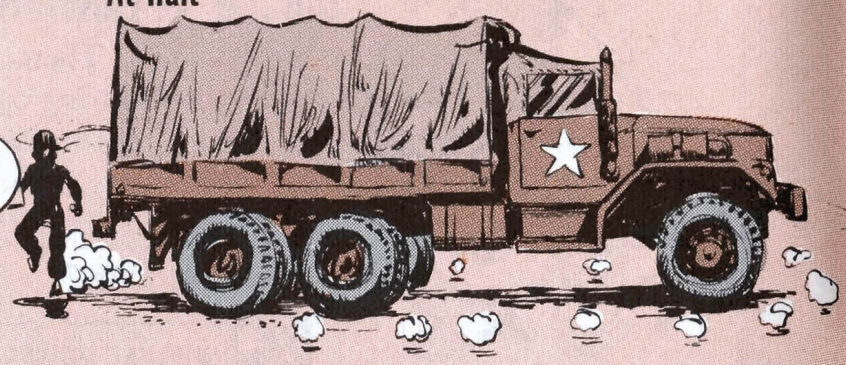
4 CLUTCH ADJUSTMENT: There should be no slipping or chatter when it starts to engage. Be sure you do not "ride" the clutch. (Keep your foot off that pedal!!)

5 ENGINE OPERATION: Be sure your engine operates smoothly at all times. Listen for any knocks (valve knock or gas knock). Make sure your engine is hitting on all cylinders and is getting gas properly. Report any malfunction.

6 INSTRUMENTS: Instrument check should be continuous through the day. A casual glance at the dashboard will tell you when your vehicle is operating properly. Instruments to check include oil pressure, bat-gen, tachometer, fuel, air pressure, temperature and speedometer gages.

PS MORE

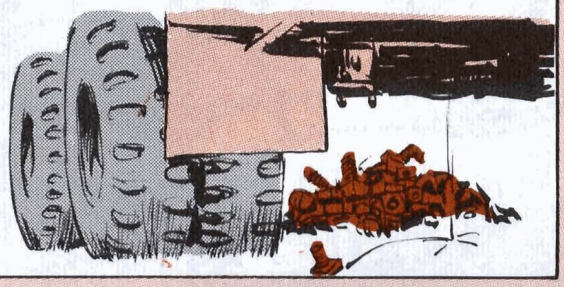
At Halt



1 ■ LEAKS: Make a quick turn around with the truck, checking on the ground under the vehicle for any excessive leaks. Take a quick look under the hood for any gas, oil, or water leaks.

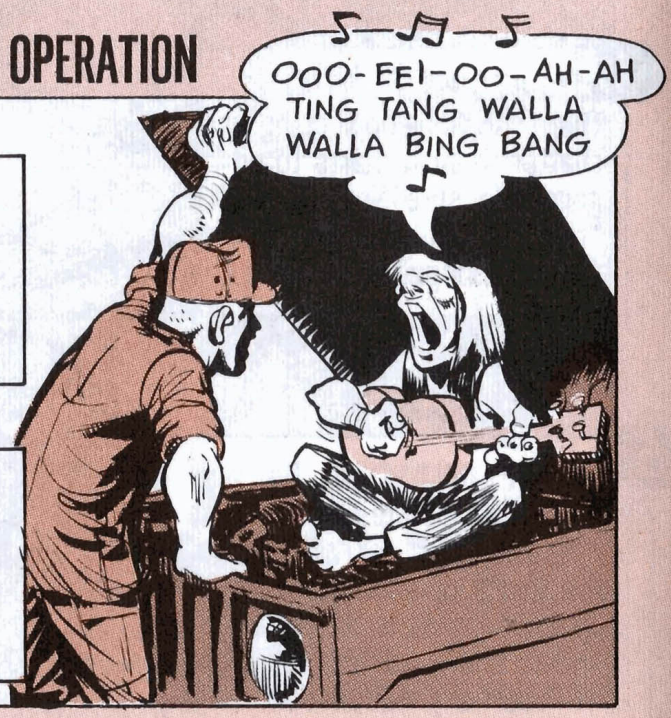
2 ■ TIRES AND WHEELS: Check your dual tires by striking with a lug wrench to be sure they are inflated. Check all wheel lug nuts; make sure they're in place and tight. Remove any rocks you find between dual tires.

3 ■ LOOSE NUTS AND BOLTS: Look under carriage and body mountings for loose or missing nuts and bolts.



4 ■ OIL, WATER AND FUEL: At your last halt of the day, and before parking your truck for the night, check and refill to proper level: Crankcase with Oil, Radiator with Water, and Fuel Tank with Fuel. Record fuel and oil on the trip ticket. (DA Form 2408-1).

AFTER OPERATION



1 ■ START THE ENGINE: Listen for any unusual noises you may have not noticed during operation. Look at the following safety devices with the engine running:

a. Air Pressure Warning Buzzer: Make sure the air pressure warning buzzer is operating and cuts out at correct pressure. Do this by bleeding down the air pressure to below 65 PSI.

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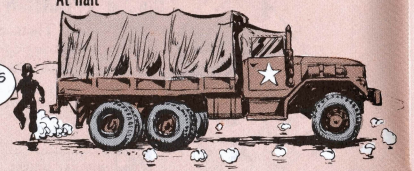

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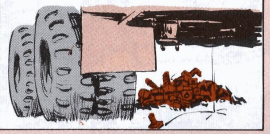

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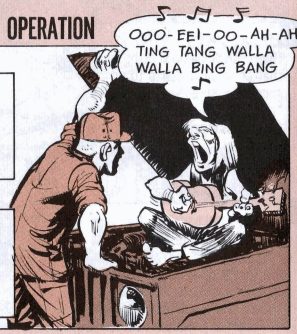

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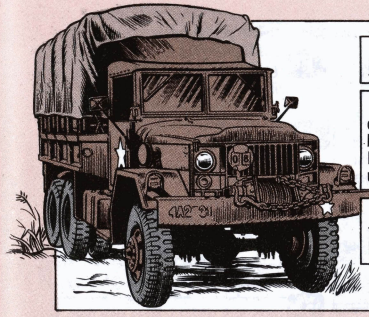


b. Mirrors: Not broken or loose. Adjusted for rear-view vision.

c. Lights: Make sure all lights are in operating condition (check high and low beams), including the tail and stop lights, particularly if the vehicle is to be used that night.

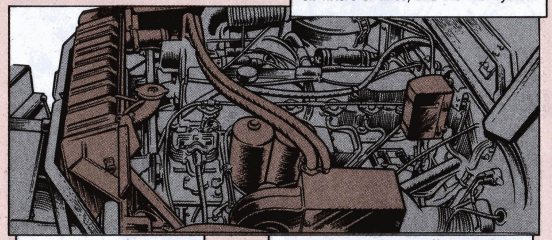
d. Windshield Wipers: Make sure they operate and rubber on the blades is not damaged.

e. Horn: Make sure it blows!

Under Hood

1 WITH THE ENGINE IDLING, lift the hood and eyeball the following items:

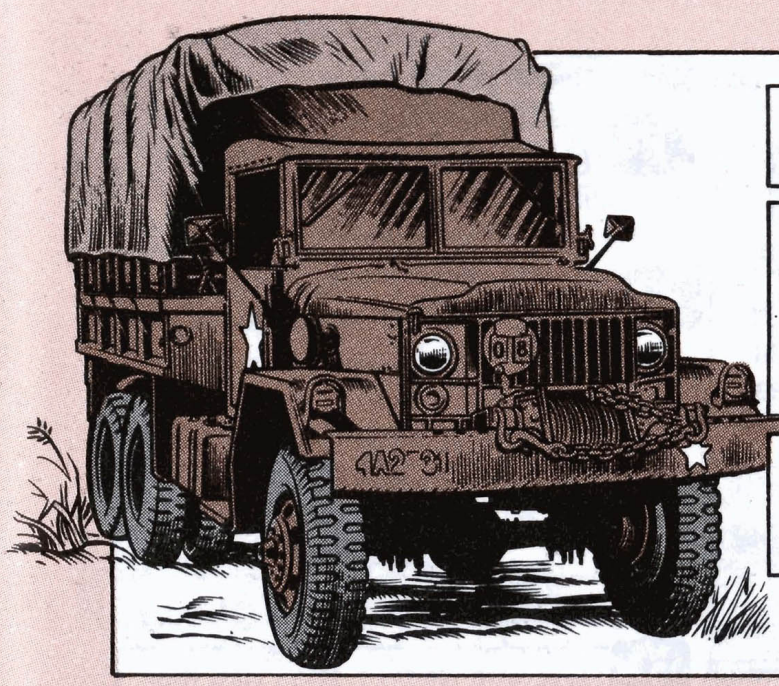
a. Leaks: Look around the valve cover (on top of the engine for valve-in-head, and side for L-Heads), around the oil filters or lines, and the fuel system.



b. Loose Items to Look For: Vibration in the generator, water pump, fan, and air cleaner; any loose wiring or mountings.

Check exhaust and intake manifolds for cracks or escaping gas. Same for the cylinder head gasket, to make sure there is no escaping power. Inspect radiator for leaks in the tank, core or connecting hoses. Watch that fan, and keep your fingers attached to your hands.

PS MORE



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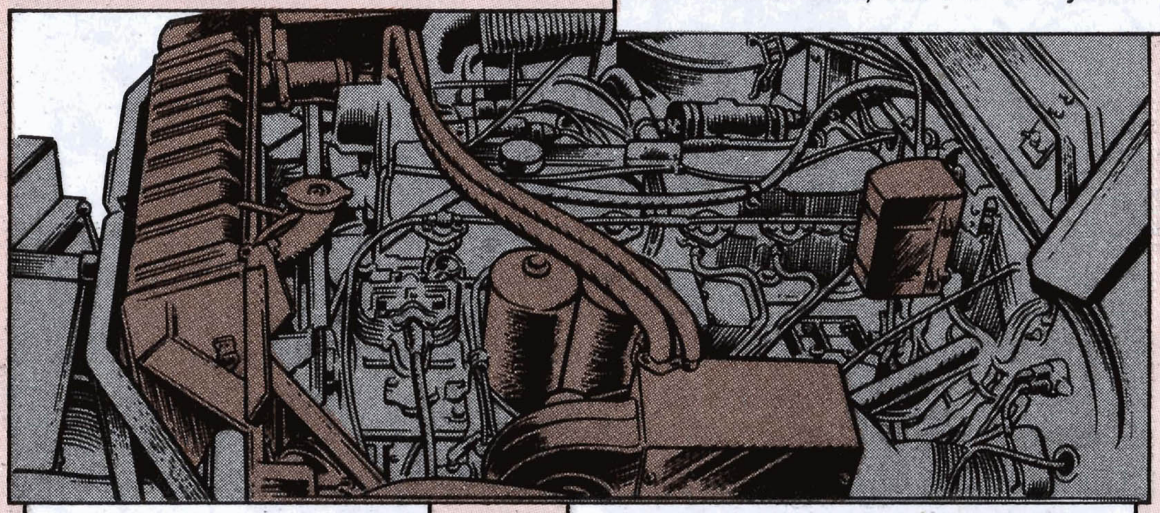

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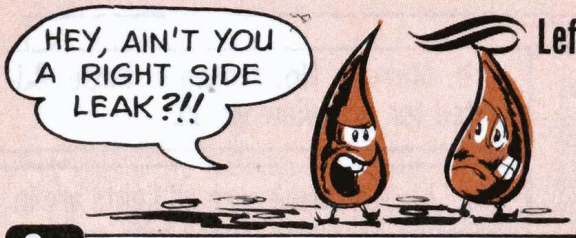
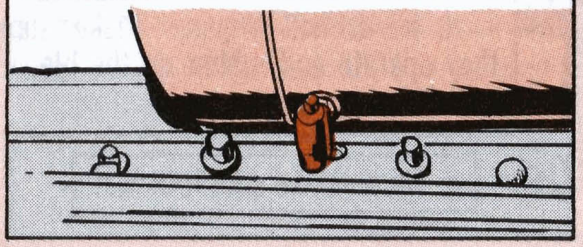
PS MORE

Left Side



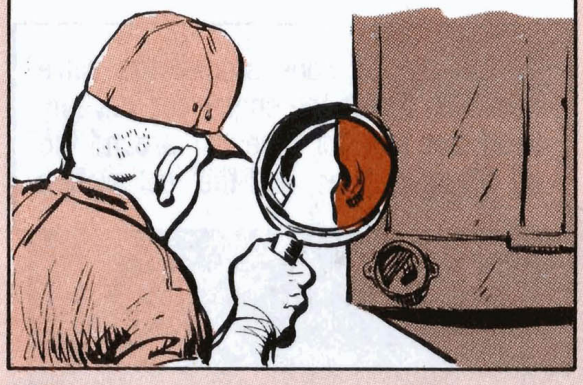
1 LEAKS: Excessive leaks on the ground and underside of vehicle.

2 DRAIN AIR TANK: Open petcock to allow accumulated water to blow out. Shut off petcock when air looks clear of water.



3 FUEL TANK: Check for bad gasket on cap.

4 DAMAGE: Dents and scratches (bare metal spots that need painting).



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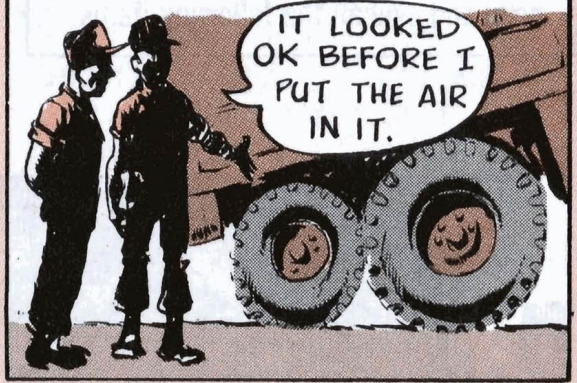
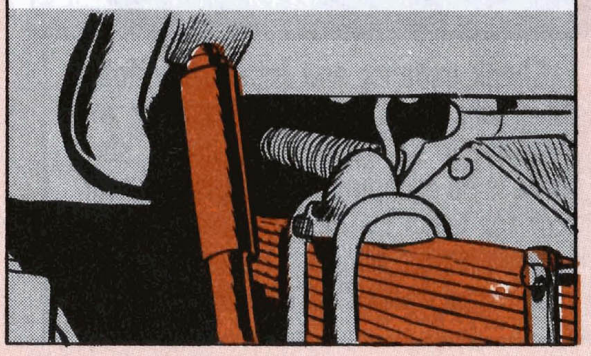
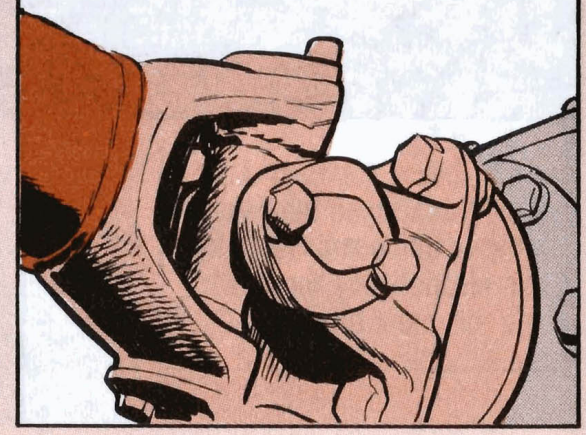


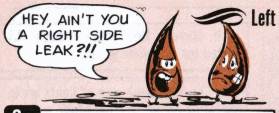
6 SPRINGS, SHOCKS, AND TORQUE RODS: Inspect springs for broken leaves and secure mountings. Make sure shock absorbers are mounted properly. Look at torque rod ends for wear and make sure they're secure.



7 DRIVE SHAFT AND UNIVERSALS: Look for excess play, loose nuts and bolts, and clean lubrication.



Left Side



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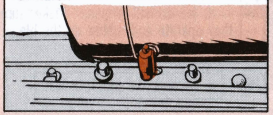

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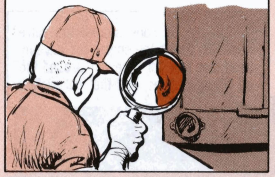

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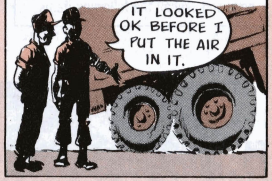

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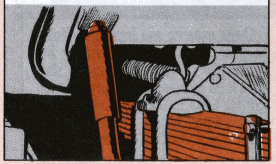

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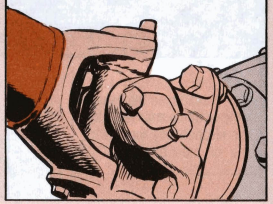
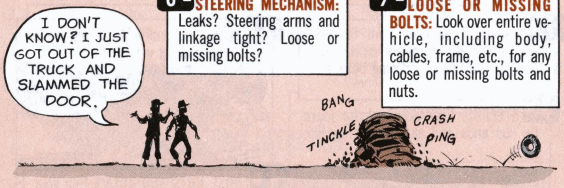


8 STEERING MECHANISM: Leaks? Steering arms and linkage tight? Loose or missing bolts?

9 LOOSE OR MISSING BOLTS: Look over entire vehicle, including body, cables, frame, etc., for any loose or missing bolts and nuts.



Rear

1 DAMAGE: Lights, reflectors, tailgate, and body.

2 LEAKS: Unusual leaks on the ground, on the rear differentials, and hoist assembly (dump trucks only).

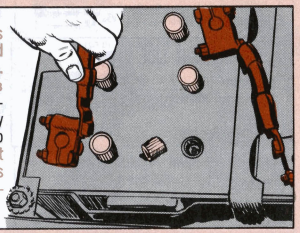
3 AIR CONNECTIONS: Make sure they are not damaged and dummy couplings are in place.

4 LOOSE OR MISSING NUTS OR BOLTS: Missing nuts or bolts on the tailgate, mud flaps, dump body, and undercarriage.

Right Side

Right Side Same as left side except for . . .

1 BATTERY: Hold-down connections tight? Look at filler caps for cracks and make sure vent holes aren't plugged up. Be sure electrolyte level is at least ⅛ inch over the plates (do not overfill). Terminal connections loose? Wipe off any dirt or condensation that may be on top of the batteries. Make sure a thin coat of lubricant is applied to the terminals to prevent corrosion, and be sure battery box cover is put back on right.



PS MORE

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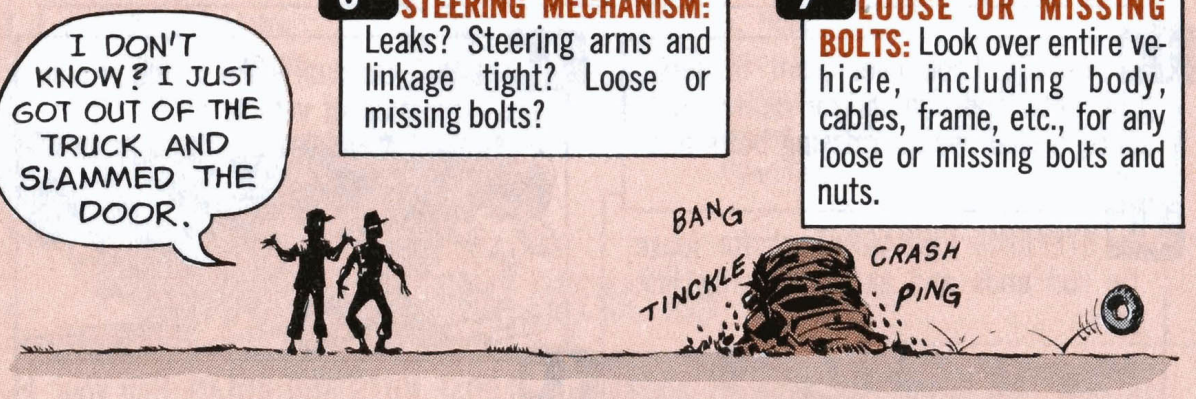

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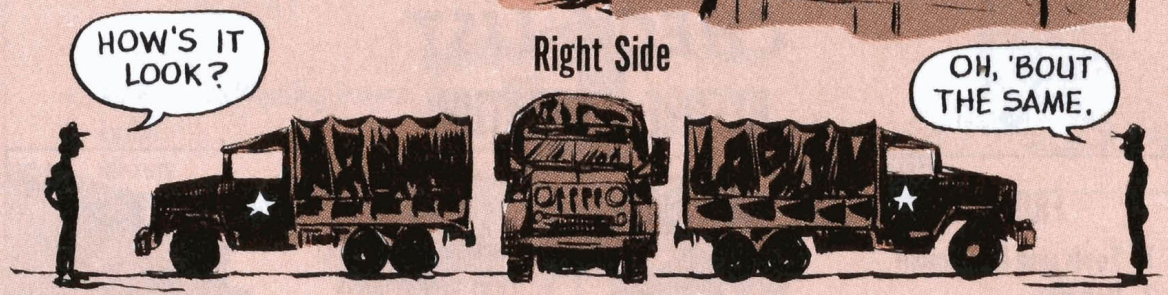

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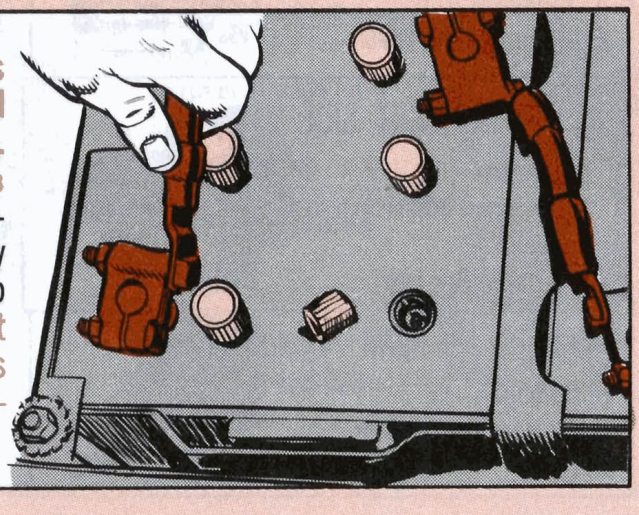


PS MORE

1 **DAMAGE:** Look over front fenders, grill, hood and bumper for dents, rust spots, broken welds, missing bolts and nuts.

2 **LEAKS:** Unusual leaks on the ground and underside of vehicle.

3 **STEERING LINKAGE:** Look for loose tie rod ends and excessive drag link play.

4 **LOOSE NUTS AND BOLTS:** Run your eyes over all mounting bolts, including those on the fender and body, for loose or missing items.

5 **CV JOINTS:** Look for torn or leaking boots, or rusty and worn ball joints, depending on vehicle.

6 **REPORT VEHICLE CHECKED AND SECURED:** Report to your supervisor that your vehicle has been thoroughly checked, is ready for the following day's operation and has been secured for the night.

CHECK LIST

BEFORE OPERATION

FRONT OF VEHICLE

1. Tools and Equipment
2. Damage
3. Leaks
4. Oil and Water Level

LEFT SIDE

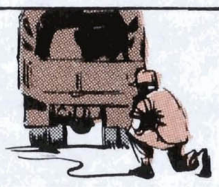
1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap

RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap

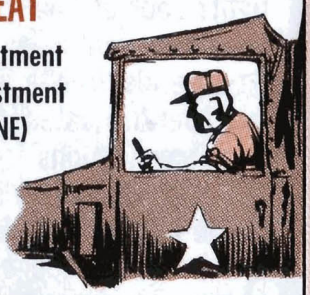
REAR

1. Damage
2. Air Hose Connections
3. Leaks



IN SEAT

1. Brake Pedal Adjustment
2. Clutch Pedal Adjustment (START ENGINE)
3. Unusual Noises
4. Engine Controls
5. Instrument Check
   a. Oil Pressure
   b. Bat-Gen Indicator
   c. Tachometer



Front

1 DAMAGE: Look over front fenders, grill, hood and bumper for dents, rust spots, broken welds, missing bolts and nuts.

2 LEAKS: Unusual leaks on the ground and underside of vehicle.

3 STEERING LINKAGE: Look for loose tie rod ends and excessive drag link play.

4 LOOSE NUTS AND BOLTS: Run your eyes over all mounting bolts, including those on the fender and body, for loose or missing items.

5 CV JOINTS: Look for torn or leaking boots, or rusty and worn ball joints, depending on vehicle.

6 REPORT VEHICLE CHECKED AND SECURED: Report to your supervisor that your vehicle has been thoroughly checked, is ready for the following day's operation and has been secured for the night.

CHECK LIST

BEFORE OPERATION

FRONT OF VEHICLE

1. Tools and Equipment
2. Damage
3. Leaks
4. Oil and Water Level

LEFT SIDE

1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap

RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap

IN SEAT

1. Brake Pedal Adjustment
2. Clutch Pedal Adjustment (START ENGINE)
3. Unusual Noises
4. Engine Controls
5. Instrument Check
   a. Oil Pressure
   b. Bat-Gen Indicator
   c. Tachometer

REAR

1. Damage
2. Air Hose Connections
3. Leaks

   d. Fuel Gage
   e. Air Brake Pressure
   f. Temperature Gauge
6. Safety Devices
   a. Air Pressure Warning Buzzer
   b. Lights
   c. Mirrors
   d. Windshield Wipers
   e. Horn
7. Dump Hoist
8. Accident Report and Identification Forms
9. Report Vehicle Checked and Ready for Operation

DURING OPERATION CHECK

WHILE DRIVING

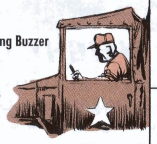
1. Brake Adjustment
2. Clutch Adjustment
3. Instruments
   a. Oil Pressure
   b. Bat-Gen Indicator
   c. Tachometer
   d. Fuel Gage
   e. Air Brake Pressure
   f. Temperature Gage
   g. Speedometer
4. Unusual Noises
5. Steering
6. Engine Operation

AT HALT

1. Leaks
2. Tires and Wheels
3. Loose Nuts and Bolts
4. Oil, Water, and Fuel (Refill)

AFTER OPERATION CHECK

IN SEAT



1. Start Engine
   a. Air Pressure Warning Buzzer
   b. Lights
   c. Mirrors
   d. Windshield Wipers
   e. Horn
2. Under Hood
   a. Leaks
   b. Look For Loose Items

REAR

1. Damage
2. Leaks
3. Air Connections
4. Loose or Missing Bolts

RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Springs, Shocks, Torque Rods
4. Leaks
5. Loose or Missing Bolts
6. Battery
7. Loosen Gas Cap

LEFT SIDE

1. Drain Air Tank
2. Loosen Gas Cap
3. Damage
4. Tires and Wheels
5. Springs, Shocks and Torque Rods
6. Drive Shafts and Universals
7. Leaks
8. Steering Mechanism
9. Loose or Missing Bolts
10. Operating Faults

FRONT

1. Damage
2. Leaks
3. Steering Linkage
4. Loose Nuts and Bolts
5. C/V Joints
6. Report Vehicle Checked and Secured

d. Fuel Gage
e. Air Brake Pressure
f. Temperature Gauge

6. Safety Devices
   a. Air Pressure Warning Buzzer
   b. Lights
   c. Mirrors
   d. Windshield Wipers
   e. Horn
7. Dump Hoist
8. Accident Report and Identification Forms
9. Report Vehicle Checked and Ready for Operation

DURING OPERATION CHECK

WHILE DRIVING

1. Brake Adjustment
2. Clutch Adjustment
3. Instruments
   a. Oil Pressure
   b. Bat-Gen Indicator
   c. Tachometer
   d. Fuel Gage
   e. Air Brake Pressure
   f. Temperature Gage
   g. Speedometer
4. Unusual Noises
5. Steering
6. Engine Operation

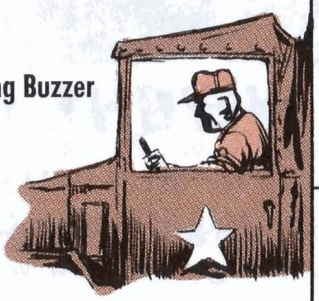
AT HALT

1. Leaks
2. Tires and Wheels
3. Loose Nuts and Bolts
4. Oil, Water, and Fuel (Refill)

AFTER OPERATION CHECK

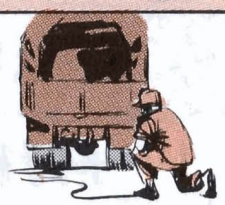
IN SEAT

1. Start Engine
   a. Air Pressure Warning Buzzer
   b. Lights
   c. Mirrors
   d. Windshield Wipers
   e. Horn
2. Under Hood
   a. Leaks
   b. Look For Loose Items



REAR

1. Damage
2. Leaks
3. Air Connections
4. Loose or Missing Bolts

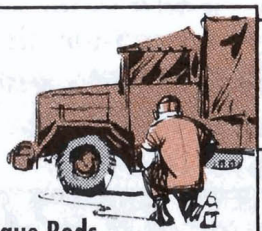


RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Springs, Shocks, Torque Rods
4. Leaks
5. Loose or Missing Bolts
6. Battery
7. Loosen Gas Cap

LEFT SIDE

1. Drain Air Tank
2. Loosen Gas Cap
3. Damage
4. Tires and Wheels
5. Springs, Shocks and Torque Rods
6. Drive Shafts and Universals
7. Leaks
8. Steering Mechanism
9. Loose or Missing Bolts
10. Operating Faults



FRONT

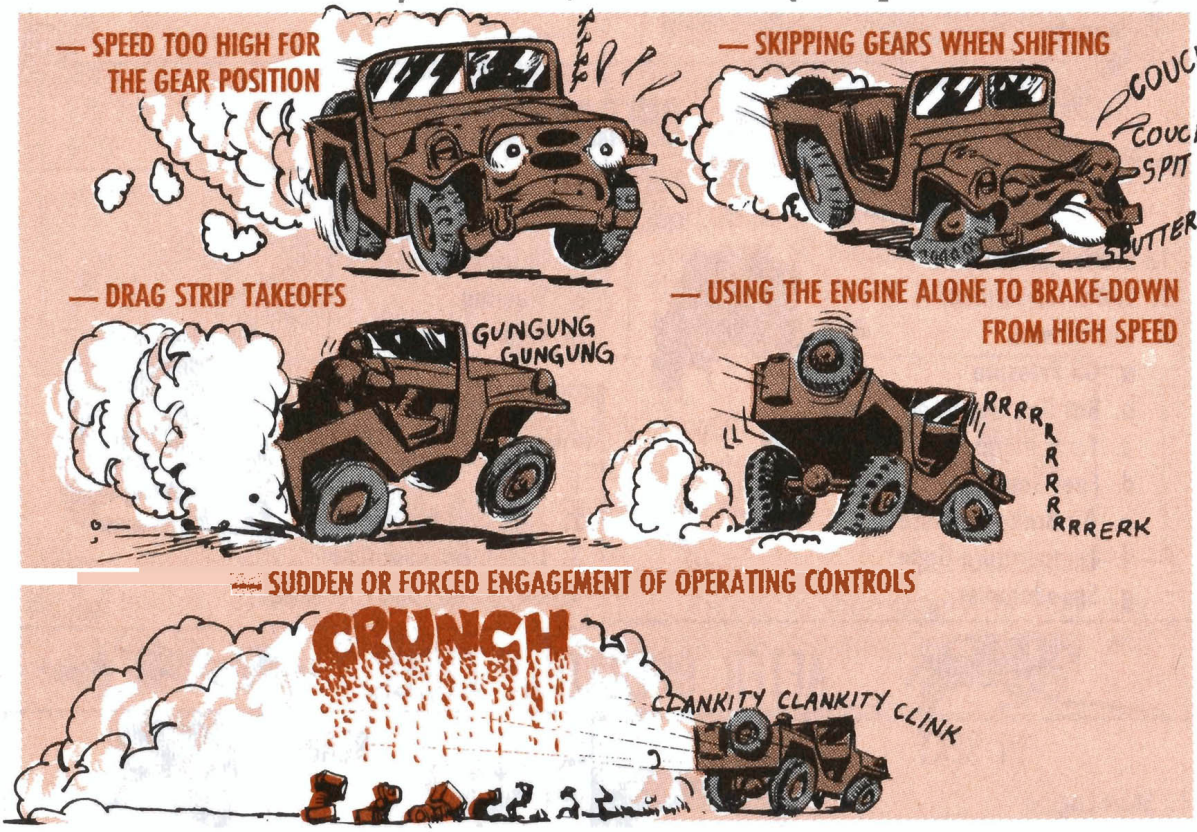
1. Damage
2. Leaks
3. Steering Linkage
4. Loose Nuts and Bolts
5. C/V Joints
6. Report Vehicle Checked and Secured

PS END

BELOW 50-MPH FOR M151

It's recommended that you keep the top speed for your M151-series 1/4-ton truck under 50-MPH for the first 1,000 miles of operation. This's for proper break-in of drive line components and service brakes.

Whether new or already broken in, never torture your quarter-tonner with:



M113/M113A1 WEIGHT CLASS

Confused about the weight classification for M113/M113A1 vehicles, including the M577A1? It's 11 . . . like FM 5-36 (May 65) says in Ch 1 (Apr 66), Table IV-1, page AIV-9. TM 9-2300-257-10 will get this new word.

SWITCHIN' TIME

There's a new starter switch for G744-series 5-ton diesel and multifuel trucks and for those G742-series 2-1/2-ton multifuel trucks with the LD 465-1 engine (M35A2 etc.). Ask for Switch, starter, FSN 2920-133-9629 the next time you order one. It replaces Switch, FSN 2920-781-1953.

EXHAUST CLAMP

Have you got the new vertical exhaust stack on your M52A1 truck tractor (or other straight diesel 5-tonner)? The exhaust pipe-to-turbocharger clamp assembly is FSN 2990-972-2605 — same as used on the older exhaust system — listed in TM 9-2320-211-20P w/Ch 1 and Ch 2 (Apr 67).

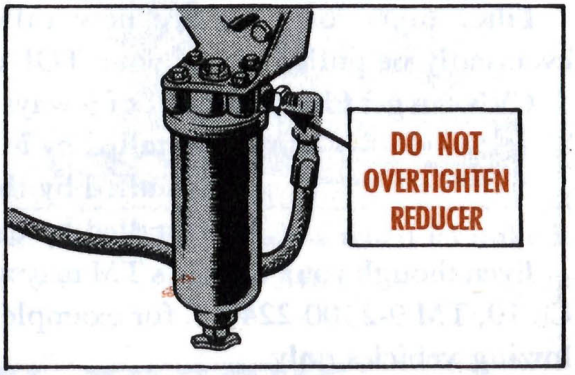
FILTER HEAD HAZARD

So you got a little leak around the outlet opening on the primary fuel filter head of your M60A1 tank . . . or maybe it's on your M60, M48A3 or M103A2 tank or AVBL or M728 CEV.

The thing **not** to do is try to stop the leak by tightening up real hard on the tapered pipe reducer FSN 4730-542-3253.

What'll happen, you're sure to crack the filter head. Then you've got real trouble.

The way to stop the leak is with a little thread and gasket sealing compound FSN 8030-656-1426. Put it on the threads of the pipe reducer and fuel line and then carefully tighten the connection to anything between 250-280 lb-in torque.

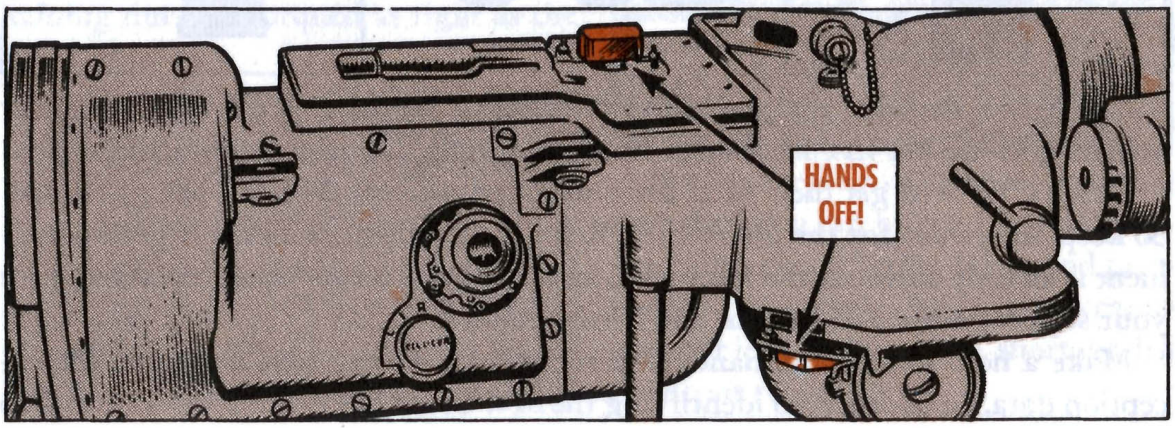


M17C RANGE FINDER REMINDER

Here's a reminder on that M17C range finder in your M60/M60A1 tank: Keep your cotton-pickin' hands off the ICS and halving knobs unless you know what you're doing.

The dope on using 'em right is on page 2-85 of Ch 8, (Sep 69) of your TM 9-2350-215-10.

For routine range finder operation leave the red covers in place, or you'll get your coincidence reticle out of whack.



If your requests for gas particulate filter units for your combat vehicles have been bouncing back, here's why—

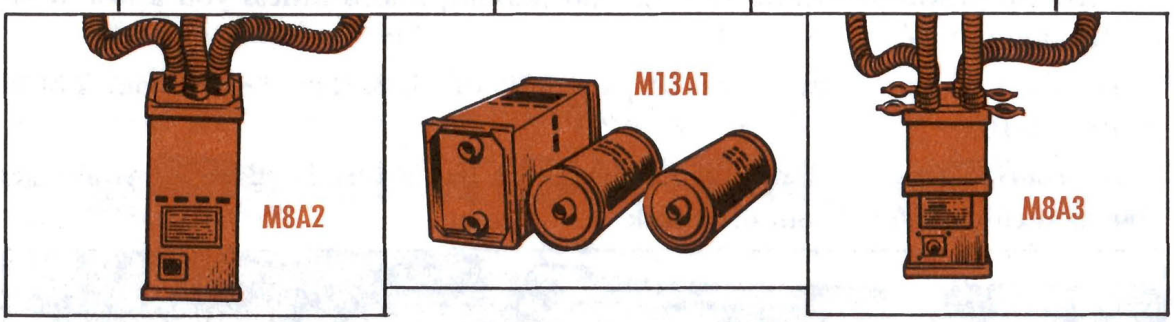
Filter units for CV's are now called **installed equipment.** The units will eventually be pulled out of your TOE and added to the vehicle's BIIL's.

CV's can get filter units in 1 of 3 ways:

1. Installed by MWO at support level
2. Installed by the manufacturer
3. Installed by depot

Even though your vehicle's TM may already cover PM SOP on a filter unit (like Ch 10, TM 9-2300-224-20, for example), filter units have been OK'd for the following vehicles only.

CV	FILTER UNIT	BY MWO
M48A2 and M48A2C tanks	M8A2 or M8A3	9-2350-208-30/4
M48A3 tank	M8A2 or M8A3	9-2350-224-50/1
M60A1 tank	M13A1	9-2350-215-30/23
M88 recovery vehicle	M8A3	9-2320-222-30/7



The M551 Sheridan gets the M8A3 filter unit, and the M728 combat engineer vehicle gets the M13A1 filter unit. Both are installed by the manufacturer.

Other CV's will get their filter units installed as their MWO's are published. So keep an eye out for the filter unit OK for your combat vehicles. If your equipment is already authorized a filter unit, and the MWO hasn't been completed, give your support outfit a DA Form 2407 work request.

Make a note somewhere handy—a request for a filter unit must provide exception data. In addition to identifying the MWO, the DA Form 2765-1 must also

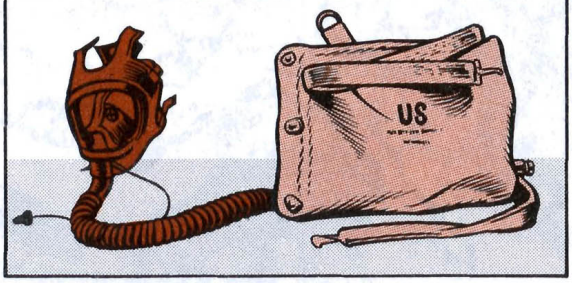
list the nomenclature, model and **manufacturer's** serial number (not the USA number) for the vehicle concerned.

Remember, once installed the filter unit stays with the vehicle all the way back to rebuild.

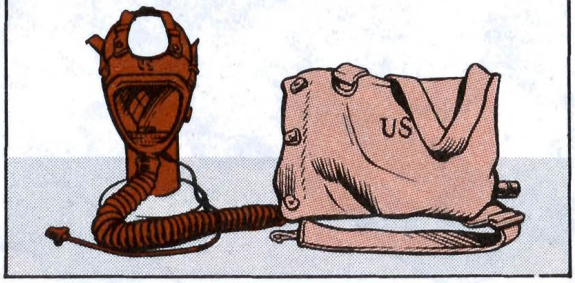
THE MASKS

On your requests for masks to go with the filter units installed in your CV's, you must provide exception data as to the vehicle's model number and the type of radio it uses (FM or AM).

The M25 and M25A1 tank masks are for use with FM radio sets.



The M14A1 or M14A2 tank masks work with the AM sets.



The M14A2 mask, however, can be used with the FM radios when its mike is changed like it says in Ch 2, TM 3-4240-223-15, para 38.1. After the mike swap it becomes an M25 mask.

TANK WHEEL TORQUE

Without wheels your track vehicle won't roll.

So why is that news?

Because roadwheels and compensating idler wheels for some tracks are in real short supply.

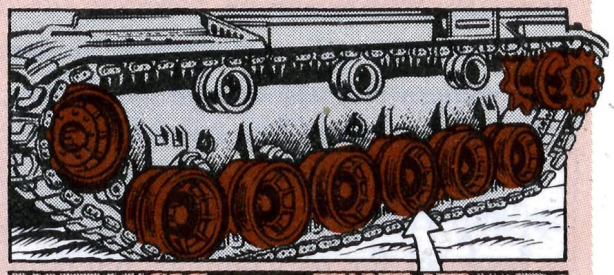
So what can you do about it?

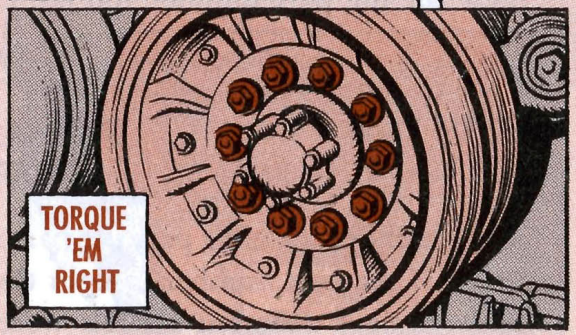
You can get the longest possible life out of your roadwheels and compensating idlers by making sure all wheel retaining nuts are torqued as tight as the TM's say.

M48, M48A1 and M48A2 tanks — 380 to 420 pound feet torque on wheel retaining nuts.

M48A3 and M60/M60A1 family — 400-420 pound feet torque.

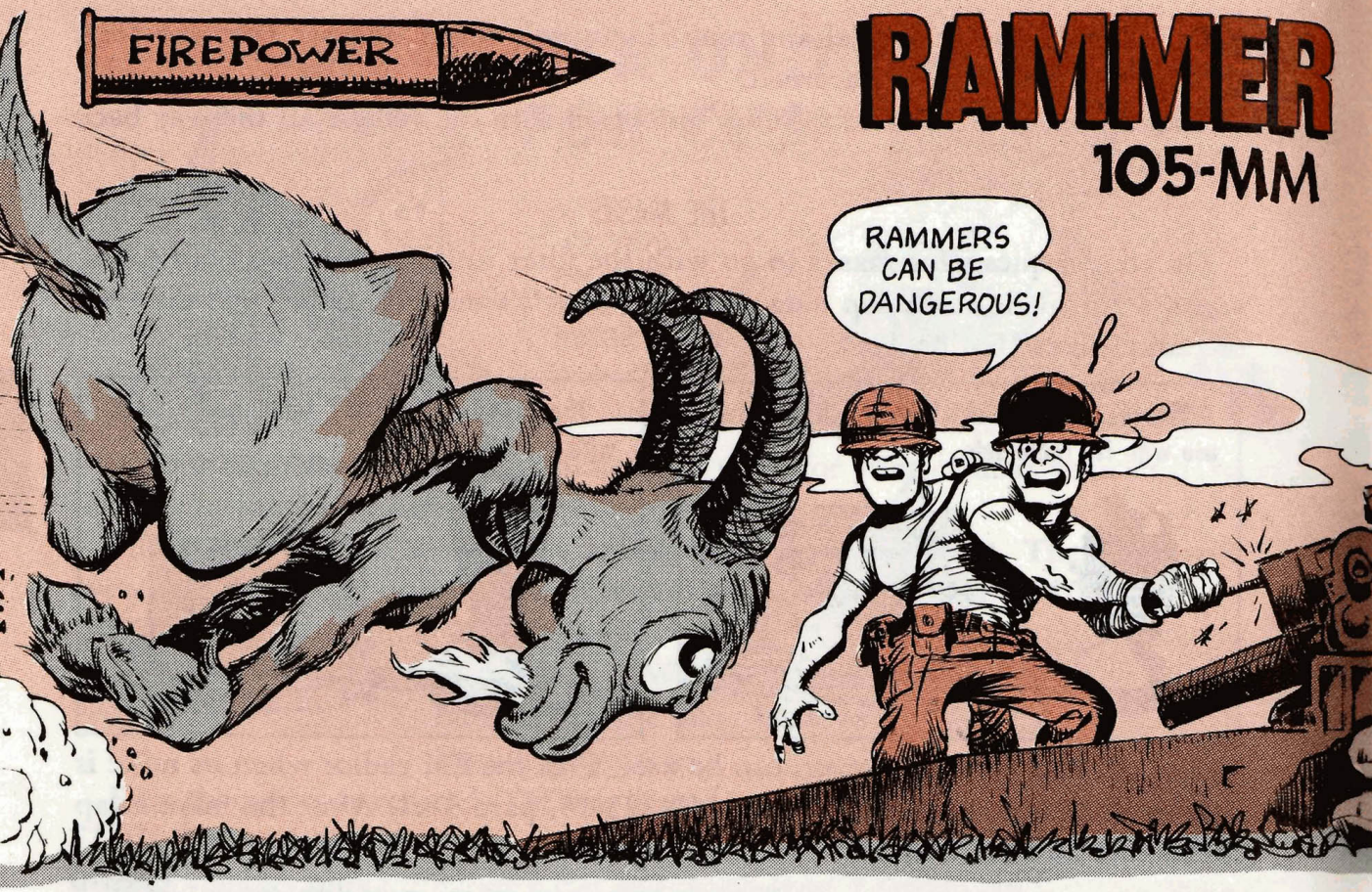
M113/M113A1 family — 150-170 pound feet.





Besides keeping your wheel retaining nuts tight you can help the supply problem by being a wheeler dealer and turning in to supply all unserviceable-repairable wheels on the shortage list for depot rebuild.

RAMMER
105-MM



You can ram yourself into the next world with the wrong rammer-extractor for your 105-MM howitzer.

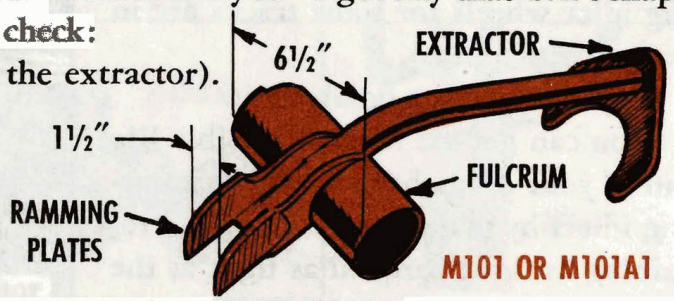
It's easy enough to do because at least 6 different wrong models (some of them very dangerous) are now in the field.

With the wrong rammer a tip of the ramming plate can set off the primer.

So, check all the rammers in your outfit and if you've got any that don't shape up, ship 'em out. Here's how you check:

Look for the part number (on the extractor).

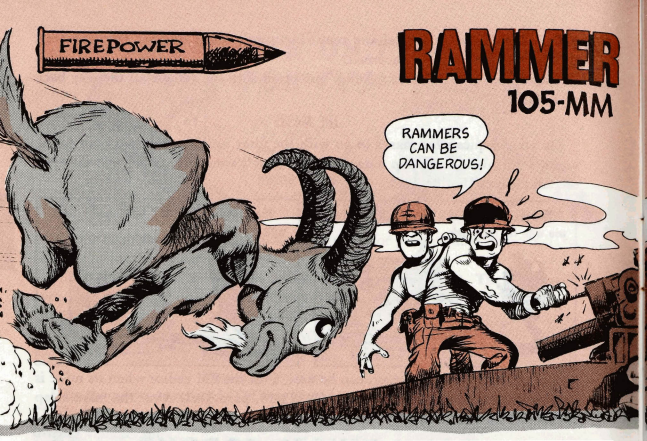
Howitzer Model	Extractor Part Number
M101 or M101A1	7306159
M102 or M108	11577644



Any rammer that can't pass the part number test should be taken out of service, but even if the part number is right the rammer could still be wrong.

Seems 2 or 3 different models were issued under the same part number. So check both the fulcrum length and the distance between the ramming plates. You have the right rammer only if everything matches up like this . . .

Howitzer Model	Part Number	Fulcrum Length	Minimum distance between ramming plates
M101 or M101A1	7306159	6½ inches	1½ inches
M102 or M108	11577644	6⅜ inches	1½ inches



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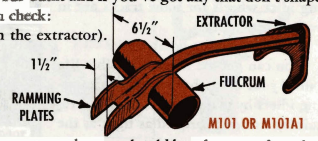

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ROUND-UP HOWITZERS

Even with the right rammer you're still not home free and clear. If it's burred, bent out of shape or banged up it's dangerous, so turn it in for a new one.

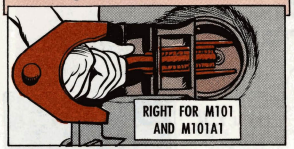
Here're the FSN's and authority for the rammers:

M101 or M101A1 (FSN 4933-730-6159) ..... Ch 5 to TM 9-325
M102 (FSN 4933-927-7277) ..... TM 9-1015-234-12
M108 (FSN 4933-927-7277) ..... Ch 4 to TM 9-2350-217-10

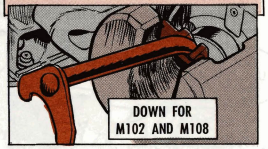
So now you have the right rammer, and it's in good condition. You could still blow things up by using it upside down.

It's easy to figure out which is upside down and which is right side up. Just put the rammer tool into the breech recess so the rounded edges of the ramming plates will make contact with the cartridge case.

This will happen with the M101 and M101A1 if you put the fulcrum into the breechblock guides in the breech ring with the tips of the extractor pointing to the right.



With the M102 or M108 you position the tool so the extractor tips are pointing straight downwards.



The fulcrum should slide freely in the guides. If you put it in right but it fits so loosely it could tip in the guides it is too worn or damaged to use—so get a new one.

You don't need to use a lot of muscle. If you can't seat the cartridge easily, take it out and put in a new one.

PS MORE

ROUND-UP
HOWITZERS

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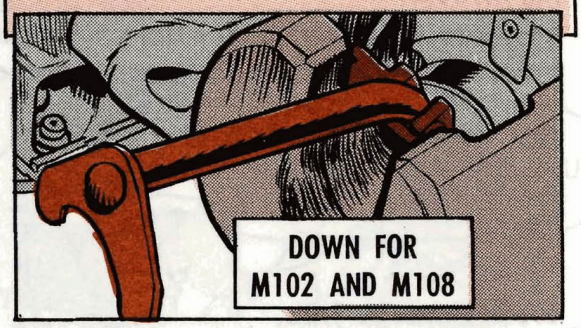

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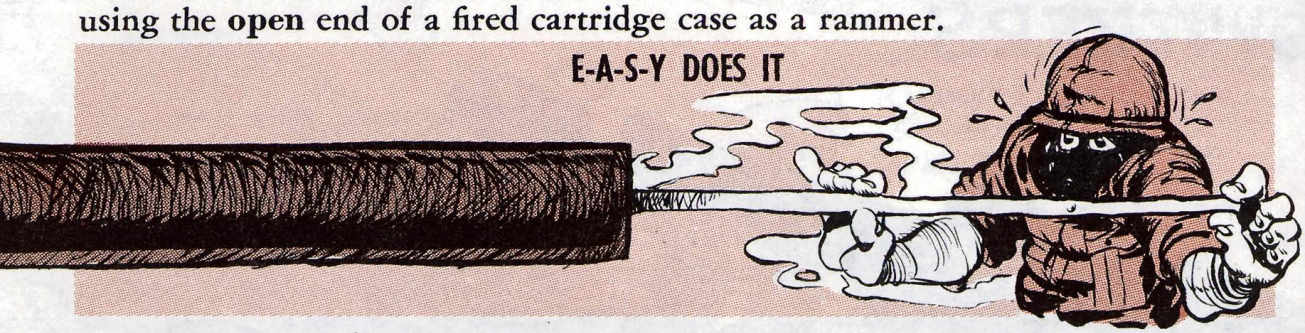
PS MORE

Suppose you need a rammer but you turned in your old one and you don't have the new one yet . . . What to do?

You can sometimes seat a round that won't chamber when you first load it by using the **open** end of a fired cartridge case as a rammer.



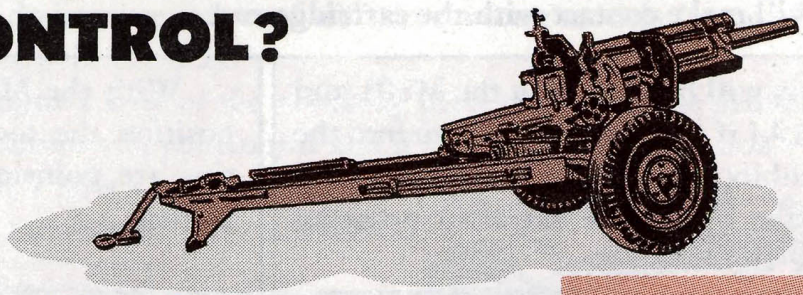
To get out an unfired round stuck in the chamber, use the bell rammer on the end of the sectional cleaning staff, and gently poke it out.

WARNING: Cartridges, projectiles or fuzes that have been removed from a weapon by ramming are not to be used again. This is because some non-standard condition in the ammunition may have made the ramming necessary and the ramming might have damaged the fuze.

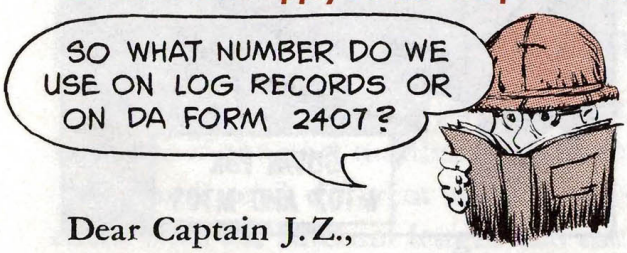
If the round has been fired, poke out the empty cartridge with the cleaning staff without the bell rammer on the end.

These are field expedients to be used only until you get the right rammer-extractor.

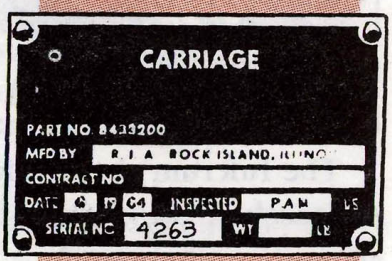
CARRIAGE, BREECH OR CONTROL?



Dear Half-Mast,
Some towed howitzers — like the M101A1 — have serial numbers on the breechblock and the carriage but none that apply to the complete weapon.



CPT. J. Z. Jr.



Dear Captain J. Z.,

For the M101A1 and other howitzers that don't have serial numbers for the complete weapon, use their **carriage** serial numbers.

The rule in TM 38-750 on use of DA Form 2408-8 control numbers doesn't apply to these howitzers.

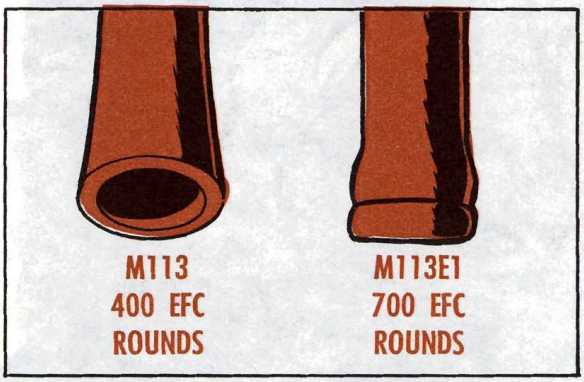
175-MM GUNNERS . . .

AUTOFRETTAGE TUBES ARE COMING

A new **M113E1** autofrettage tube for your M107 175-MM SP gun is the latest round of good news to zero in on gunnery circles these days.

This **E1** model will almost double interim tube life by letting you reach 700 effective full-charge rounds between trade-ins . . . compared to 400 EFC rounds on the current M113 tube. So, you don't have to ask for tube changes as often.

You'll only be able to tell the difference by the **bell shaped muzzle** on the autofrettage tube. But your supply man will know the difference by its FSN: **1025-113-5636** for the complete cannon, including all breech components . . . **FSN 1025-113-5637** for the tube only.



STICK TO M79 CARTRIDGES

The M79 grenade launcher's not designed to fire pyrotechnic cartridges used in the AN-M8 Very pistol or AN-M9 hand projector. Cartridges AN-M37 thru AN-M58 are .055-inch smaller in diameter than the 40-MM ammo and have no rotating band.

Using other than authorized 40-MM cartridges in the M79 could damage both you and the launcher.

Small Arms Tool Kit FSN

Now you see it—now you don't. So you're wondering what's happened to that armorer's tool kit. Here's the story:

Armorer's Tool Kit, FSN 5180-754-0640, LIN 453650 W31634, SM 10-4-5180-A19 (Jan 62) was changed by SB 9-196 (Apr 67). The SB added 27 tools, deleted 11 and changed the set to Small Arms Repairman Tool Kit, FSN 4933-357-7770, LIN W51910 (453995), SC 4933-95-CL-A07. The latest pub is dated April 1969.

If you need a complete tool kit, order FSN 4933-357-7770, but if you just need to bring your kit up to date, order the individual items you need.

Here's what you should have in your kit. You get one each unless noted.

BOX, PLASTIC, SMALL PARTS: 16 compartments 1 in x 1½ in, 1 compartment 4 1/16 in x 1½ in, 7⅜ in lg x 4¼ in w x 1¼ in h, w/ hinged cover

FSN 8115-663-0212 2

CAPS, VISE JAW: brass face, 2½ in w jaws

FSN 5120-246-4746

CHISEL, COLD, HAND: ⅜ in w cut, 5½ in lg o/a

FSN 5110-242-3457

Small Arms Tool Kit FSN

Now you see it—now you don't. So you're wondering what's happened to that armorer's tool kit. Here's the story:

Armorer's Tool Kit, FSN 5180-754-0640, LIN 453650 W31634, SM 10-4-5180-A19 (Jan 62) was changed by SB 9-196 (Apr 67). The SB added 27 tools, deleted 11 and changed the set to Small Arms Repairman Tool Kit, FSN 4933-357-7770, LIN W51910 (453995), SC 4933-95-CL-A07. The latest pub is dated April 1969.

If you need a complete tool kit, order FSN 4933-357-7770, but if you just need to bring your kit up to date, order the individual items you need.

Here's what you should have in your kit. You get one each unless noted.

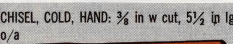
BOX, PLASTIC, SMALL PARTS: 16 compartments 1 in x 1½ in, 1 compartment 4¼ in x 1½ in, 7⅜ in lg x 4¼ in w x 1¼ in h, w/ hinged cover

FSN 8115-663-0212 2

CAPS, VISE JAW: brass face, 2½ in w jaws

FSN 5120-246-4746

CHISEL, COLD, HAND: ⅜ in w cut, 5½ in lg o/a



FSN 5110-242-3457

Repairman 4933-357-7770

DRIFTPIN: sgle taper, ¼ in largest dia, 4 in lg o/a

FSN 5120-239-0035

DRIFTPIN: sgle taper, ½ in largest dia, 4 in lg o/a

FSN 5120-239-0036

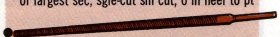
FILE, HAND: American patt, fl type, dble cut sm faces, sgle-cut sm edges, 6 in heel to pt

FSN 5110-234-6532

FILE, HAND: American patt, half-rd type, dble cut sm face, sgle-cut sm face, 6 in heel to pt

FSN 5110-241-9149

FILE, HAND: American patt, rd type, ¹³⁄₆₄ in dia of largest sec, sgle-cut sm cut, 6 in heel to pt



FSN 5110-234-6550

FILE, HAND: American patt, slim taper type, sgle-cut handsaw faces and edges, 6 in heel to pt

FSN 5110-234-6528

FILE SET, HAND: sw-patt, needle type, No. 0 cut, 5½ in lg o/a, 12 files, w/case, c/o 1 ea

barrette	5110-249-2886
crossing	5110-249-2883
equaling	5110-166-1207
flat	5110-249-2882
half-round	5110-245-4160
joint	5110-239-3276
knife	5110-166-1203
marking	5110-293-1488
round	5110-166-1201
slitting	5110-239-7609
square	5110-239-7597
three square	5110-239-7586

FSN 5110-204-2684

HAMMER, HAND: 1 in dia screw-in inserted plastic faces, 1 med and 1 tough face, 6 oz When exhausted use 5120-900-7871

FSN 5120-293-2208

HAMMER, HAND: 1 in dia screw-in inserted plastic faces, fbrglass hdl, 11⅜ in lg, ¾ lb wt

FSN 5120-900-7871

FACE, HAMMER, INSERTED: med plastic

FSN 5120-293-3003

FACE, HAMMER, INSERTED: tough plastic

FSN 5120-293-2999

PS MORE

Repairman 4933-357-7770

DRIFTPIN: sgle taper, ¼ in largest dia, 4 in lg o/a

FSN 5120-239-0035

DRIFTPIN: sgle taper, ½ in largest dia, 4 in lg o/a

FSN 5120-239-0036

FILE, HAMMER: American patt, fl type, dble cut sm faces, sgle-cut sm edges, 6 in heel to pt

FSN 5110-234-6532

FILE, HAMMER: American patt, half-rd type, dble cut sm face, sgle-cut sm face, 6 in heel to pt

FSN 5110-241-9149

FILE, HAMMER: American patt, rd type, 15/64 in dia of largest sec, sgle-cut sm cut, 6 in heel to pt

FSN 5110-234-6550

FILE, HAMMER: American patt, slim taper type, sgle-cut handsaw faces and edges, 6 in heel to pt

FSN 5110-234-6528

FILE SET, HAND: sw-patt, needle type, No. 0 cut, 5½ in lg o/a, 12 files, w/case, c/o 1 ea

barrette 5110-249-2886

crossing 5110-249-2883

equaling 5110-166-1207

flat 5110-249-2882

half-round 5110-245-4160

joint 5110-239-3276

knife 5110-166-1203

marking 5110-293-1488

round 5110-166-1201

slitting 5110-239-7609

square 5110-239-7597

three square 5110-239-7586

FSN 5110-204-2684

HAMMER, HAND: 1 in dia screw-in inserted plastic faces, 1 med and 1 tough face, 6 oz
When exhausted use 5120-900-7871

FSN 5120-293-2208

HAMMER, HAND: 1 in dia screw-in inserted plastic faces, fbrglass hdl, 11⅜ in lg, ¾ lb wt

FSN 5120-900-7871

FACE, HAMMER, INSERTED: med plastic

FSN 5120-293-3003

FACE, HAMMER, INSERTED: tough plastic

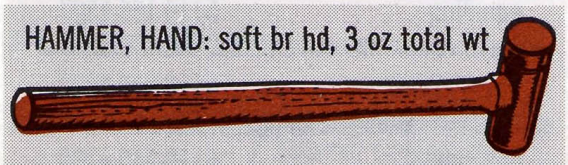
FSN 5120-293-2999

PS MORE

HAMMER, HAND: machinist's, ball peen, 8 oz hd wt

FSN 5120-061-8541

HAMMER, HAND: soft br hd, 3 oz total wt



FSN 5120-242-3908

HANDLE, FILE, WOOD: 1 in dia, 4 in lg o/a small size

FSN 5110-263-0342 4

HANDLE, FILE, WOOD: 1¼ in dia, 4½ in lg o/a med size

FSN 5110-263-0349

HANDLE, SOCKET WRENCH: rvrs rtc palm grip type, ⅜ in drive end, 1⅛ in lg o/a

FSN 5120-786-3782

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 1/16 in w across flats, 1¾ in lg arm

FSN 5120-198-5398

KEY, SOCKET HEAD SCREW: hex type, L-type handle, 3/32 in w across flats, 2 in lg arm

FSN 5120-242-7410

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 7/64 in across flats, 2 7/32 in lg arm

FSN 5120-889-2162

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 1/8 in w across flats, 2¼ in lg arm

FSN 5120-240-5292

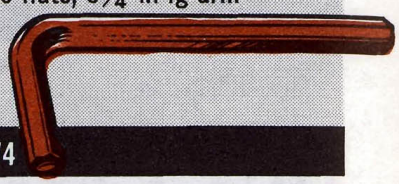
KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 5/32 in w across flats, 2½ in lg arm

FSN 5120-198-5392

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 3/16 in w across flats, 2¾ in lg arm

FSN 5120-240-5300

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 5/16 in w across flats, 3¾ in lg arm



FSN 5120-240-5274

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 5/64 in across flats, 1⅞ in lg arm

FSN 5120-224-2504

OILER, HAND: 6 oz cap, pressure fed by int pump S body, ni-pltd fin, 1⅛ in bottom dia, 6 in lg spout w/removable tip, w/closure cap attached, w/o holder bracket

FSN 4930-985-2604

PADLOCK: pin tumbler type, individually keyed, 5,000 key changes, 1½ in w x 1¼ in h br-bz case, ¾ in clearance .240 in to .323 in dia br-bz shackle, w/clevis, chain, and 2 keys

FSN 5340-682-1508

PLIERS: lg rd nose, w/cutter, 6 in size

FSN 5120-247-5177

PLIERS, DIAGONAL CUTTING: 6 in size

FSN 5110-239-8253

PLIERS: parallel action jaws, w/cutter, 6½ in size

FSN 5120-224-1541

PUNCH, CENTER, SOLID: 5/32 in dia at top of taped pt, 3/8 in stk dia, 4 in lg o/a

FSN 5120-293-3509

PUNCH, CENTER, SOLID: 5/64 in dia at top of tapd pt, ¼ in dia of stk, 3¼ in lg o/a

FSN 5120-293-3510

PUNCH, DRIVE PIN: stght type, 0.070 in dia, 1⅛ in lg pt

FSN 5120-840-7288

PUNCH, DRIVE PIN: stght type, 0.055 in dia, 5/8 in lg pt

FSN 5120-840-7289

PUNCH, DRIVE PIN: stght type, 1/16 in dia, 1½ in lg pt

FSN 5120-752-9030

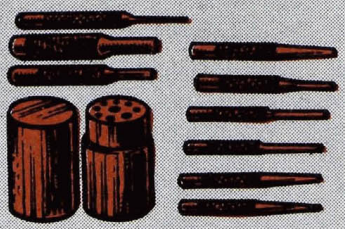
PUNCH, DRIVE PIN: stght type, ⅛ in dia, 3½ in lg pt

FSN 5120-223-1014

PUNCH, DRIVE PIN: stght type, 5/32 in dia, 2 in lg pt

FSN 5120-752-9031

PUNCH SET, DRIVE PIN: 9 stght punches, w/case



pt dia in	pt lg in	
1/16	½	5120-240-6082
3/32	11/16	5120-242-3435
⅛	¾	5120-242-5966
5/32	13/16	5120-240-6104
3/16	15/16	5120-293-0791
7/32	1	5120-293-0792
¼	1	5120-240-6083
5/16	1	5120-293-0793
3/8	1	5120-273-0001

FSN 5120-883-3003

RASP, HAND: 1 3/16 in w x 7/16 in thk at largest sec, sm cut faces, file cut edges, 12 in heel to pt

FSN 5110-233-9722

SCREWDRIVER, CROSS TIP: plastic hdl, Phillips No. 1 tip, 3 in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-764-8080

SCREWDRIVER, FLAT TIP: plastic hdl, ¼ in w flared tip, 1½ in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-832-6223

SCREWDRIVER, FLAT TIP: plastic hdl, plain, ¼ in w flared tip, 4 in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-764-8058

P.S. MORE

SCREWDRIVER, FLAT TIP: plastic hdl, plain, 3/8 in w flared tip, 8 in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-764-8060

SCREWDRIVER, FLAT TIP: plastic hdl, stght sided tip, 9/64 in w, 5 in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-010-7913

SCREWDRIVER, FLAT TIP: plastic hdl, 3/16 in tip w, 5 in lg blade, 3/8 in female sq-drive in end of hdl

FSN 5120-042-6837

SCREWDRIVER, FLAT TIP: plastic hdl, w/pocket clip, 1/8 in w flared tip, 2 in lg blade

FSN 5120-236-2140

SCREWDRIVER, JEWELER'S SWIVEL KNOB: 0.070 in w tip, w/1 removable blade

FSN 5120-180-0728

STONE, SHARPENING: half-rd, syn, al-oxide, fine grit, 4 in lg x 3/8 in w x 3/16 in thk o/a

FSN 5345-224-6595

STONE, SHARPENING: natural, unmtd, hard grit, sq, 1/4 in thk x 1/4 in w x 3 in lg

FSN 5345-243-6087

STONE, SHARPENING: natural, unmtd, hard grit, rd-edge slip, 4 in lg x 1 3/4 in w x 1/2 in thk edge, 1/8 in thin edge

FSN 5345-243-6086

STONE, SHARPENING: rd, syn, al-oxide or silicon carbide, fine grit,4 in lg x 3/8 in thk

FSN 5345-584-4554

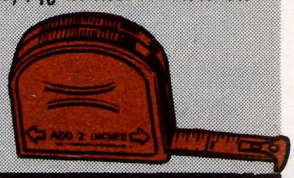
STONE, SHARPENING: sq, syn, al-oxide or silicon carbide, fine grit, 6 in lg x 3/8 in w x 3/8 in thk

FSN 5345-584-4605

STONE, SHARPENING: tri, syn, al-oxide or silicon carbide, fine grit, 4 in lg x 3/8 in w x 3/8 in thk

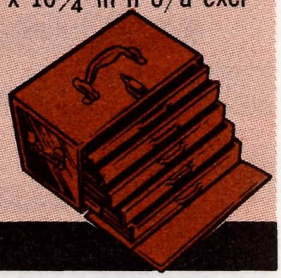
FSN 5345-584-4615

TAPE, MEASURING: S, general purpose distance measuring type, 1/2 in w x 72 in lg, grad in units of 1/32 in, 1/16 in, and 1 in, 1/32 in increments 1st 6 in upperside, 1/16 in increments on bal of ribbon, lh to rh reading, w/case, butt end type, pull-push rewind



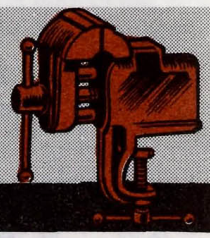
FSN 5210-287-3335

TOOL BOX, PORTABLE: S, enmld fin and painted, 16 in lg x 8 1/2 in w x 10 3/4 in h o/a excl projections, 5 drawers, w/panel front, lkg facilities incl, nonintegral lock, 2 additional handles located on sides



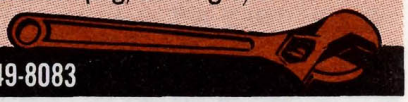
FSN 5140-449-6856

VISE, BENCH, CLAMP BASE: stationary base, w/anvil back, 2 1/2 in w jaw, 2 1/4 in jaw opng



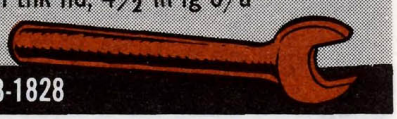
FSN 5120-243-1372

WRENCH, OPEN END, ADJUSTABLE: sgle-hd type, 0 to 1.135 in opng, 10 in lg o/a



FSN 5120-449-8083

WRENCH, OPEN END, FIXED: sgle-hd type, 3/4 in opng, 3/32 in thk hd, 4 1/2 in lg o/a

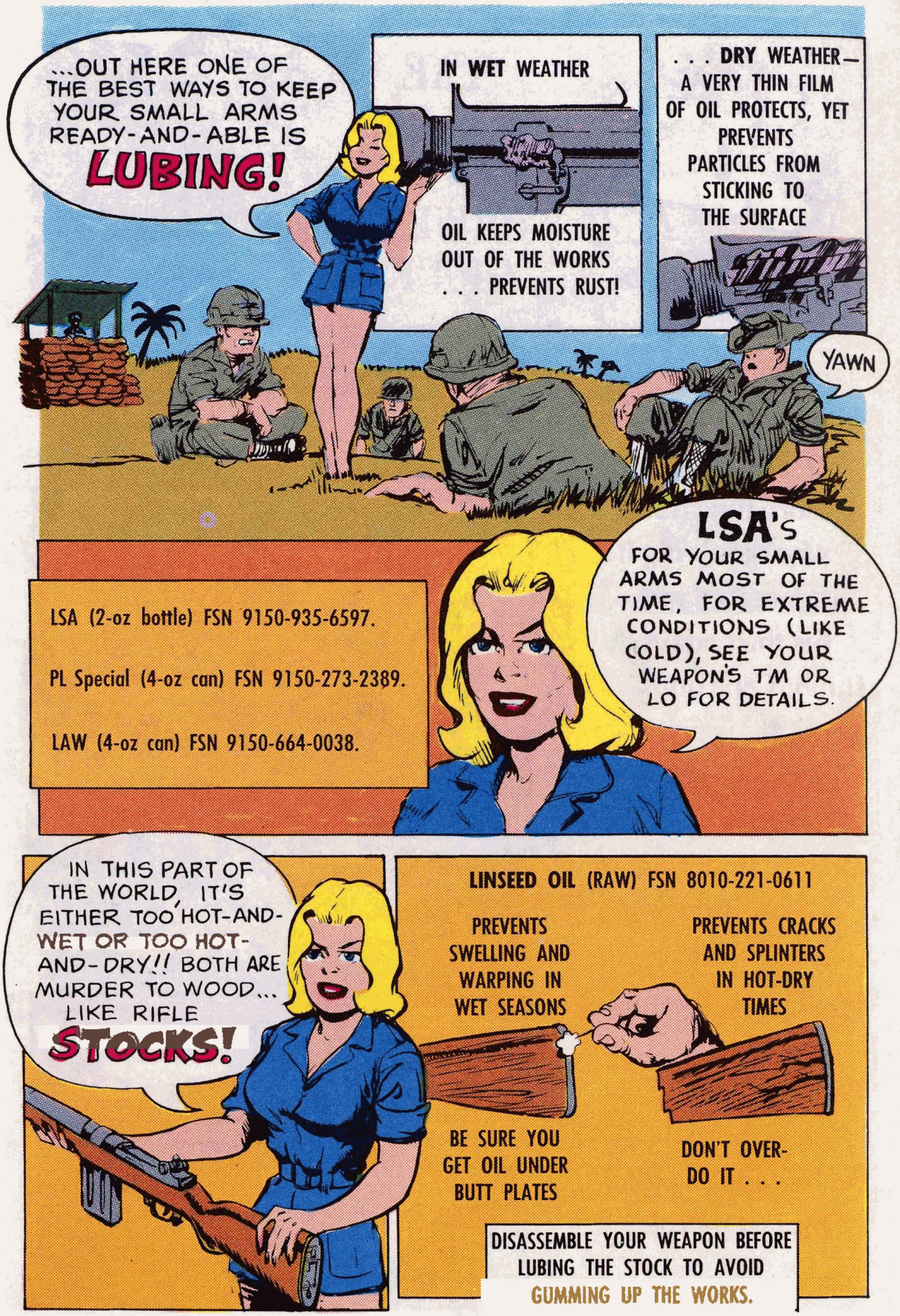


FSN 5120-293-1828

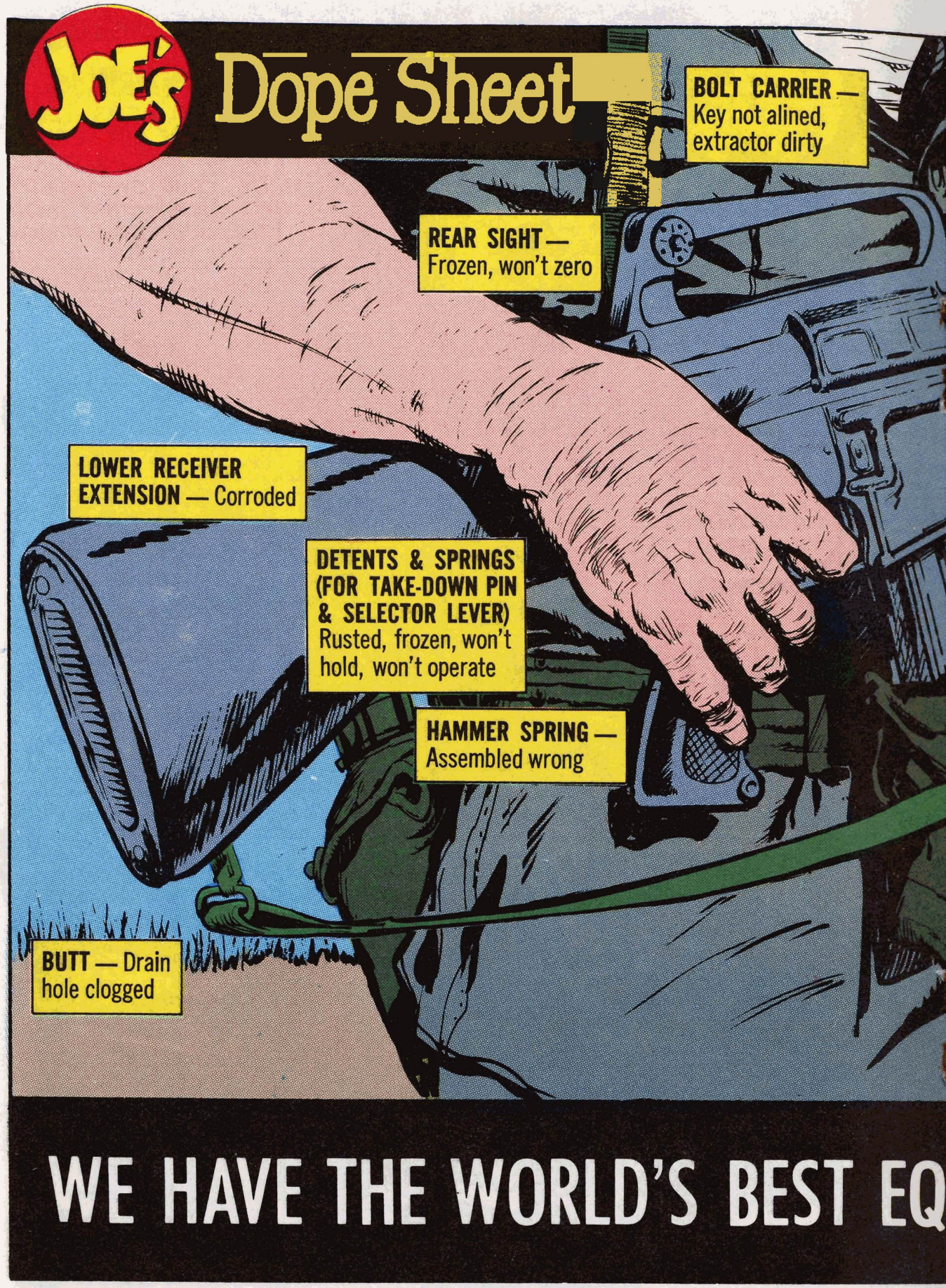
JOE'S DOPE

THE BALLAD OF ORWELL GIGGIT

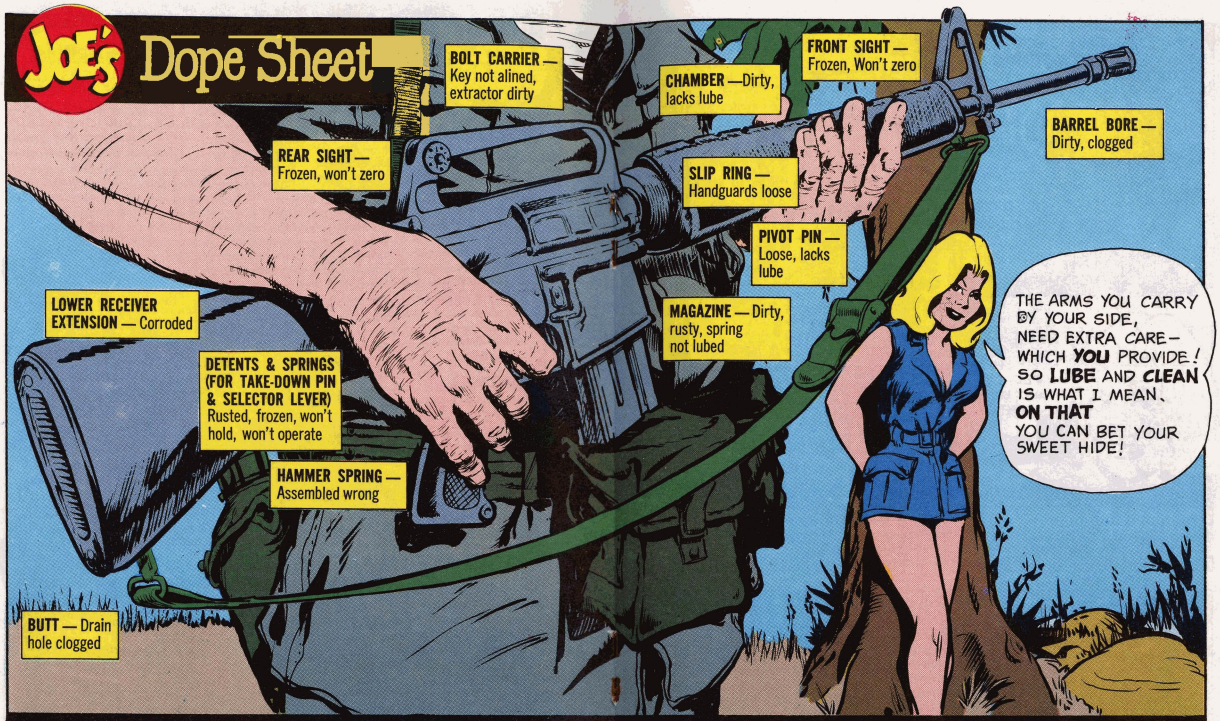
Man, rock to the tale
of Orwell Giggit,
A short-time troop
who didn't dig it!
Just sweatin' out
his thirty days,
flubbin' the dub
in fifty ways!
Hey! hey! hey!
in fifty ways!
Ooohh, that swingin'
Giggit, that
groovy cat . . .
It's 'Deros' this and
'Retro' that . . .
For "goin' home" is
his only goal
As he saddles up for
his last patrol . . .


...OUT HERE ONE OF THE BEST WAYS TO KEEP YOUR SMALL ARMS READY-AND-ABLE IS LUBING!
IN WET WEATHER
OIL KEEPS MOISTURE OUT OF THE WORKS . . . PREVENTS RUST!
. . . DRY WEATHER— A VERY THIN FILM OF OIL PROTECTS, YET PREVENTS PARTICLES FROM STICKING TO THE SURFACE
YAWN
LSA (2-oz bottle) FSN 9150-935-6597.
PL Special (4-oz can) FSN 9150-273-2389.
LAW (4-oz can) FSN 9150-664-0038.
LSA's FOR YOUR SMALL ARMS MOST OF THE TIME, FOR EXTREME CONDITIONS (LIKE COLD), SEE YOUR WEAPON'S TM OR LO FOR DETAILS.
IN THIS PART OF THE WORLD, IT'S EITHER TOO HOT-AND-WET OR TOO HOT-AND-DRY!! BOTH ARE MURDER TO WOOD... LIKE RIFLE STOCKS!
LINSEED OIL (RAW) FSN 8010-221-0611
PREVENTS SWELLING AND WARPING IN WET SEASONS
PREVENTS CRACKS AND SPLINTERS IN HOT-DRY TIMES
BE SURE YOU GET OIL UNDER BUTT PLATES
DON'T OVER-DO IT . . .
DISASSEMBLE YOUR WEAPON BEFORE LUBING THE STOCK TO AVOID GUMMING UP THE WORKS.

AH, SO I GOT A PLASTIC STOCK
SO THEN YOU LEAVE IT ALONE! NOW SIMMER DOWN. I WANT TO HEAR EVERY WORD OF THIS...
NOW, CLEANING... YOUR SMALL ARMS NEED SPECIAL CARE OUT HERE... BETWEEN DUST, MOISTURE, BUGS, CRUD, SWEAT AND WHO-KNOWS-WHAT... YOU HAVE A NEVER-ENDING JOB!
AFTER EACH FIRING MISSION DO THIS...
USE BORE CLEANER (FSN 6850-224-6656)
GIVE THE BOLT PARTS SPECIAL ATTENTION
IF YOU RUN OUT OF BORE CLEANER, USE DRYCLEANING SOLVENT.
YEAH, IT CAN GET DIRTIER THAN SIX FEET UP A SPIDER HOLE!
ON THE M14 AND M60 WATCH FOR CARBON BUILD UP IN THE GAS CYLINDER!
AND HUMAN SWEAT CORRODES SO KEEP METAL WIPED DRY.
HERE, STUDY THIS PIN-UP I'M POSTING.



IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULL



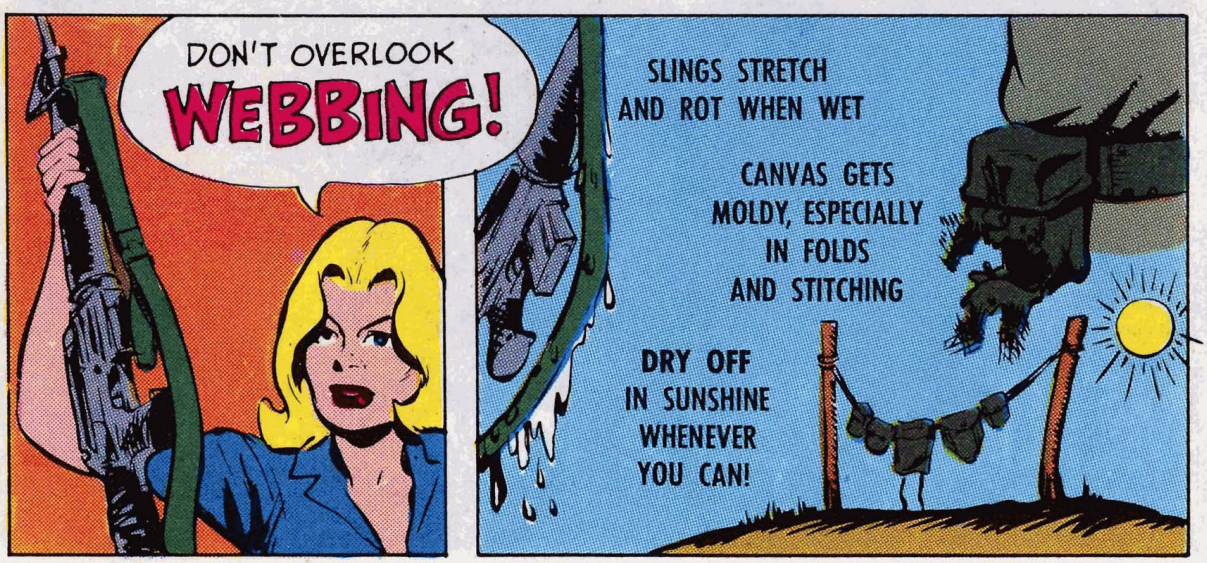
WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

UIPMENT... *Take care of it*

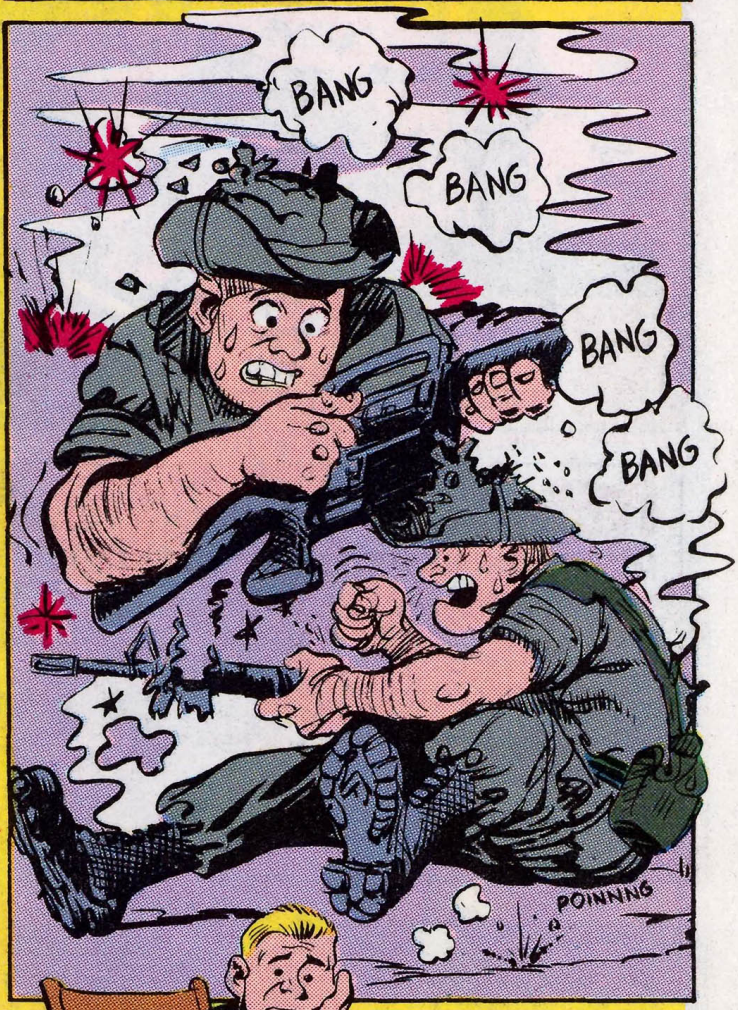
ETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

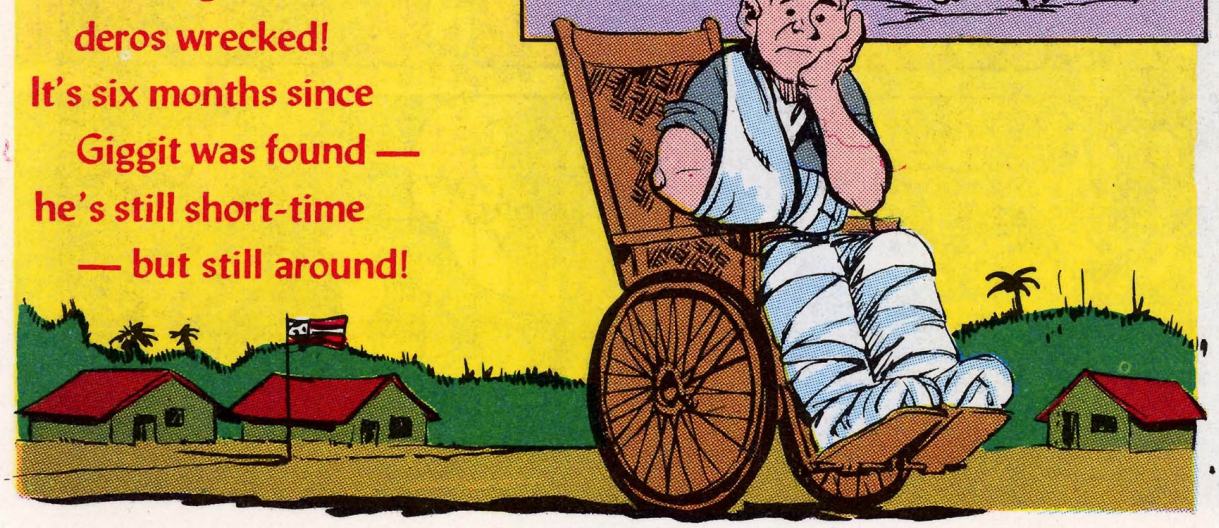
NOW, CLEANING IS NOT ENOUGH... PROTECTING YOUR WEAPON IS JUST AS IMPORTANT!
RAIN
TOTE WEAPON MUZZLE DOWN, TRIGGER UNDER ARM PIT!
MUD ?
CLEAN IT RIGHT AWAY OR . . .
DROPPED YOUR RIFLE IN THE WATER ??
EXTRACT ROUND TO BREAK AIR LOCK . . . AND DRAIN IT QUICKLY
DISASSEMBLE AND DRY IT FIRST CHANCE YOU GET . . . DON'T DELAY
SALT AIR? KEEP SPRAY WIPED OFF AND LUBE IT LIGHTLY.
MUZZLE COVERS ARE GOOD — BUT THEY TRAP CONDENSED MOISTURE . . . SO TAKE 'EM OFF ONCE-IN-A-WHILE . . . LET BORE DRY OUT!


DON'T OVERLOOK WEBBING!
SLINGS STRETCH AND ROT WHEN WET
CANVAS GETS MOLDY, ESPECIALLY IN FOLDS AND STITCHING
DRY OFF IN SUNSHINE WHENEVER YOU CAN!

DON'T POLISH AMMO . . .
AMMO ALSO NEEDS SPECIAL HANDLING!
DON'T OPEN ANY AIR-TIGHT WATER-PROOF CONTAINERS TILL YOU'RE READY TO USE 'EM!
I PUT EXTRA MAGAZINES IN A PLASTIC BAG FOR QUICK USE.
OPEN BOXES OF AMMO?? KEEP 'EM COVERED!
GOOD DEAL! — KEEPS 'EM CLEAN FOR SURE
FSN 1005-052-6942
PROTECT YOUR M16A1 WITH PLASTIC COVERALL BAG, FSN 1005-809-2190, WHENEVER POSSIBLE.
FIRST BE SURE YOUR RIFLE'S CLEANED AND LUBED!
THEN SLIP IT IN AND CLOSE THE END WITH A RUBBER BAND
CAREFUL . . . IN HOT WEATHER MOISTURE FORMS INSIDE A RIFLE BAG . . . SO OPEN THE BAG ONCE A DAY AND LET IT DRY OUT.
DON'T SWAP PARTS WITH BUDDIES... EACH PART WEARS DOWN DIFFERENTLY... IT MAY NOT QUITE FIT AND
C'MON, THIS BORES ME... I AIN'T GONNA BOTHER WITH ANY OF THEM PM TIPS 'CAUSE THIS IS MY LAST PATROL!

So Orwell Giggit
trod the ground
on that last patrol
from his compound!
But, it happened on that
hot, wet day —
they hit an ambush
on their way.
And the shoot-out that
o'course took place
found our troop Giggit
a sorry case.
His weapon froze — 'twas
rust bedecked!
The firing pin he'd
never checked!
The muzzle blocked by
caked-up mud!
The whole dang piece plumb
fouled with crud!
Just a coupla weeks of
plain neglect
was enough to see his
deros wrecked!
It's six months since
Giggit was found —
he's still short-time
— but still around!





FSN, NAME AND QUANTITY TELL...

WHAT GOES THERE

When equipment, components and parts are on shipping orders and under wraps, each item's got to be identified — no buts about it.

At every check-point in transit somebody needs to know "What goes there?" So . . . mark it before you move it.

If your outfit's involved in a rapid retrograde or deployment/redeployment action — Vietnam or otherwise — you may need a look at the rules in TM's of the 750-series. As issued they're appearing in DA Pam 310-4, and the appendix to TM 750-210 (24 Jul 69) also has a list identifying 'em by types of equipment covered.

PS MORE

Supplies move smoothly — up front and back to repair or storage depots — only if they're easy to identify. Even eyeball-to-lockpin or keyway, some items are hard to recognize. When boxed or inside other containers, they've got to be marked with:

1. FSN.
2. Item name — or description.
3. Quantity in pack (as used for issue: each, pair, dozen, yard and such).

FSN 2530-705-8039
COVER PLATE
1 EA

Mark this info — in 1-2-3 order — on all shipping-out containers, using either a —

Stencil (on containers such as metal, wood and cardboard boxes and cartons).

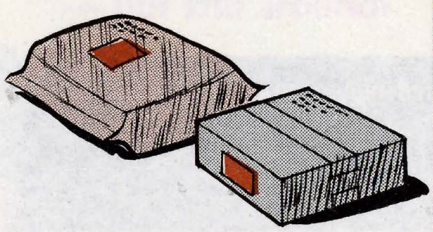
Tag (on bags, bales, bundles or other containers where labels and stencils are hard to apply), or

Label (on containers like cartons and fiber or plastic wrappers).

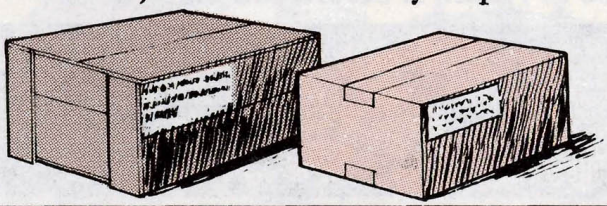
WHAT TO MARK

Identification markings are needed on:

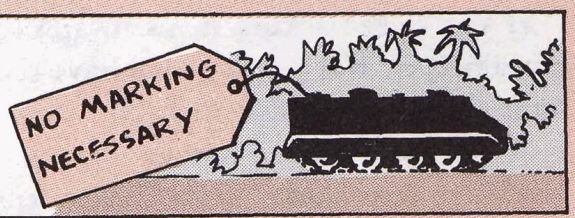
1. All bags, cartons and packing envelopes or sacks that go **inside** shipping containers.



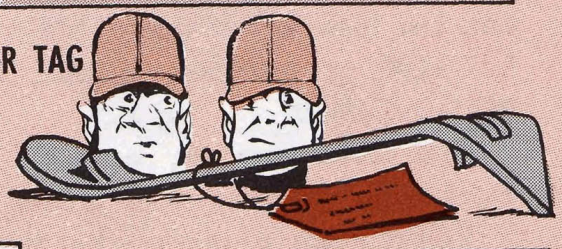
2. All shipping containers (fiberboard, wood and re-usable metal) — **except** CONEX, MILVAN and SEAVAN. No outside identification is needed on CONEX, MILVAN and SEAVAN containers — just on the items you put in 'em.



3. All unpacked items — **except** vehicles and other major items that can be readily identified by data plates.



STENCIL, LABEL OR TAG



Use the stencil, label or tag that best fits the container, sticks to it and shows the identity of the item as it moves.

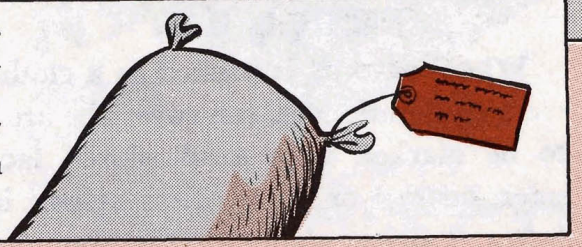
STENCIL with black ink, applied by spray, roller or brush. For slick surfaces like metal or glass, the ink is FSN 7510-191-6030. For porous or grainy surfaces like wood or fiberboard, use FSN 7510-161-0811.

For items shipped unboxed or uncrated, stencil directly on the item. Use gasoline soluble paint, FSN 8010-597-8235 (black) or FSN 8010-597-8238 (white).

LABEL with any type of paper label, using one of these 2 adhesives: FSN 8040-053-8452 or FSN 8040-656-0814. If the label goes on a package placed inside another container, it needs adhesive only on the underside.

On the other hand, if a label's applied to an outside container adhesive must be used to stick the label to the package **and** coated over the outside of the label to protect it from the weather.

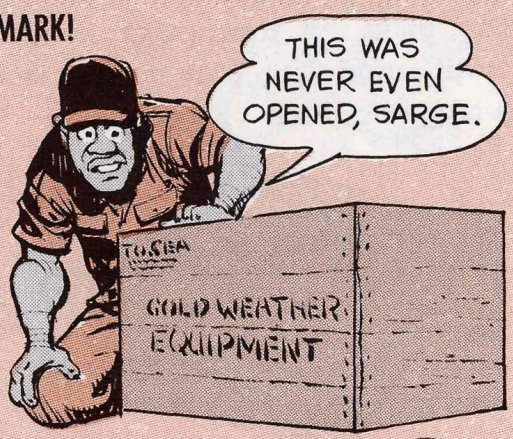
TAG the item if neither a stencil nor a label will do the trick. Use tag, FSN 8135-238-6917, and attach it to the container with the wire that comes with the tag.



READY! AIM! MARK!

Before you make any new marks on a container, make sure it's ready for marking.

First, check the old markings — if any. If an item is still packed in the container it came in, you may not need to re-pack and re-mark. But be sure this is so.



P.S MORE

If you're re-packing items in an old container, be wary. They may have the same name but a different FSN.

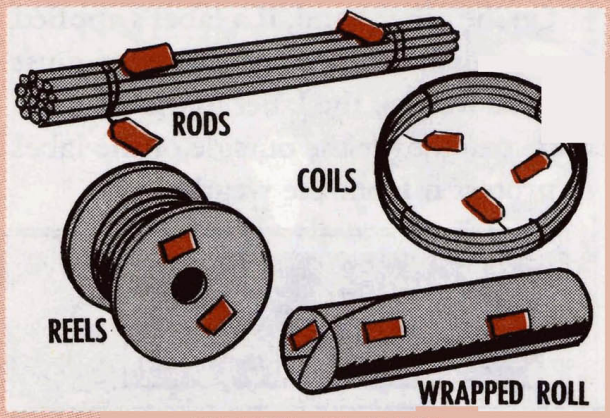
When the old container has any markings that don't apply, paint 'em out. Use lusterless lacquer, FSN 8010-527-3196 or lusterless enamel, FSN 8010-291-0889.

And make sure any surface to be marked has no dirt, oil or grease.

You're ready to mark—but where? There's no fixed rule, but it's best to put the identity on one side, the address on the other.

Markings are better protected on the sides than on bottom or top.

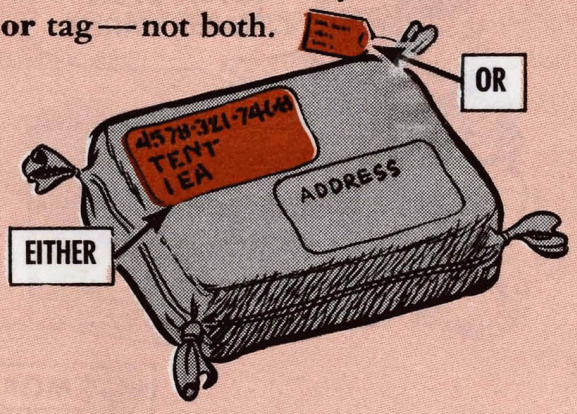
MISCELLANEOUS MARKING



Miscellaneous unpacked items like rods, coils and reels may need a special word. If there's a suitable spot, stencil or label 'em. If not, attach the identification on 2 plain tags. And put the shipping address on a third tag (DD Form 1387-1) or label (DD Form 1387). These 2 items—tag and label—are specially made for military shipments.

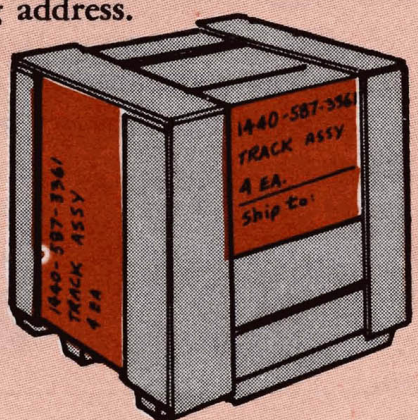
BUNDLED IN CLOTH

When materiel is packed in a cloth-covered bundle, you can cover the area to be marked with sand-colored lacquer, enamel or paint. Then stencil it (after it dries, o'course). Or you can use a plain tag attached to an ear for identification. You only need to stencil or tag—not both.



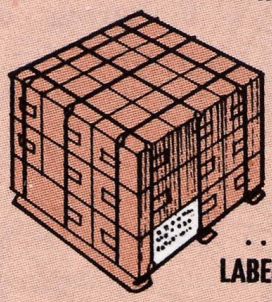
UNSHEATHED CRATES

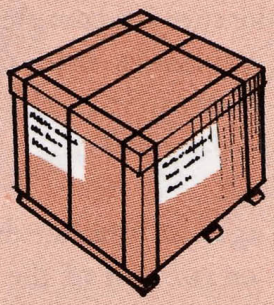
For unsheathed crates, with no available marking space, identity markings can be put on plywood, fiberboard or masonite and nailed to the crate. These boards also can provide space for the shipping address.



PALLETIZED LOADS

Palletized loads made up of a number of items get special treatment. Each individual container on the pallet gets its own identification label—plus address labels for the pallet.





If it's a box-type pallet, with individual containers not visible, identify the group of items with total number on the outside box.

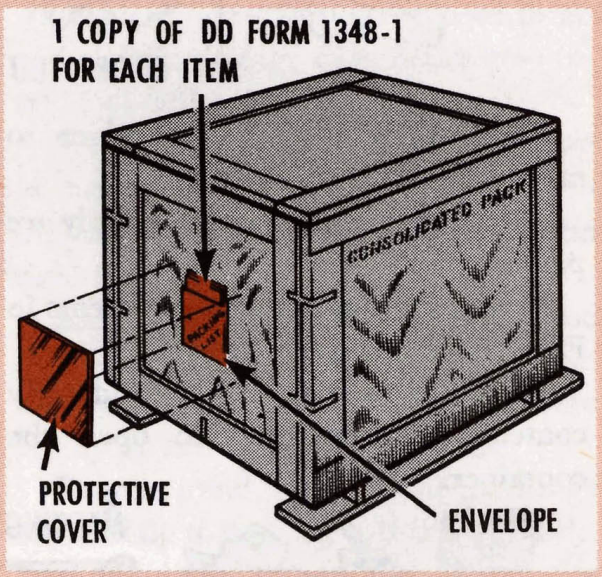
MIXING FSN'S IN A BOX

It's OK to mix FSN's in a shipping container—**if it's properly** packed and marked.

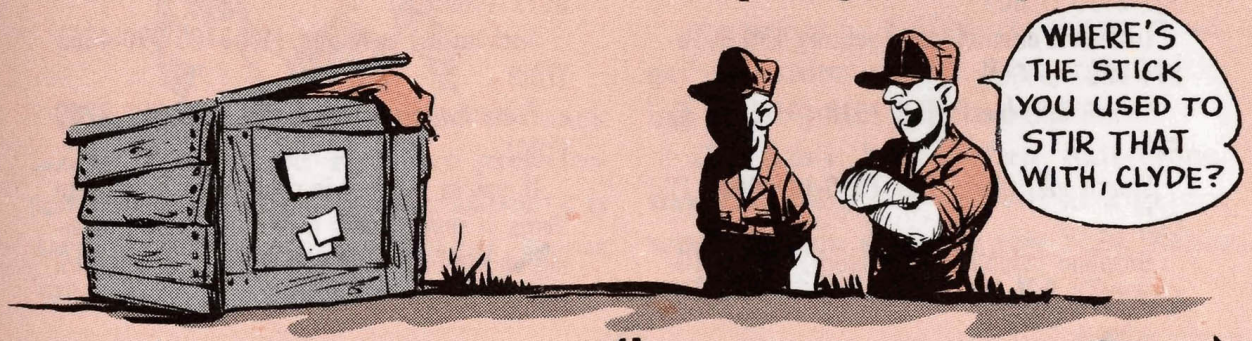
If available, 3 copies of DD Form 1348-1 should be attached to each separate item or container inside the shipping box. Also, each inside item or container should be identified.

Outside, 1 copy of the DD 1348-1 for each item should be placed in a packing list envelope, FSN 8105-290-4365, and attached to the outside container with a protective cover, FSN 8105-926-2260.

Then the outside container gets marked "CONSOLIDATED PACK"—instead of the usual individual item identification.



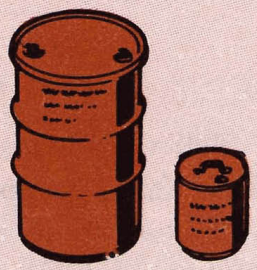
(If DD 1348-1 is not available, identification of the individual items can be made on plain white paper and included in the packing list envelope.)



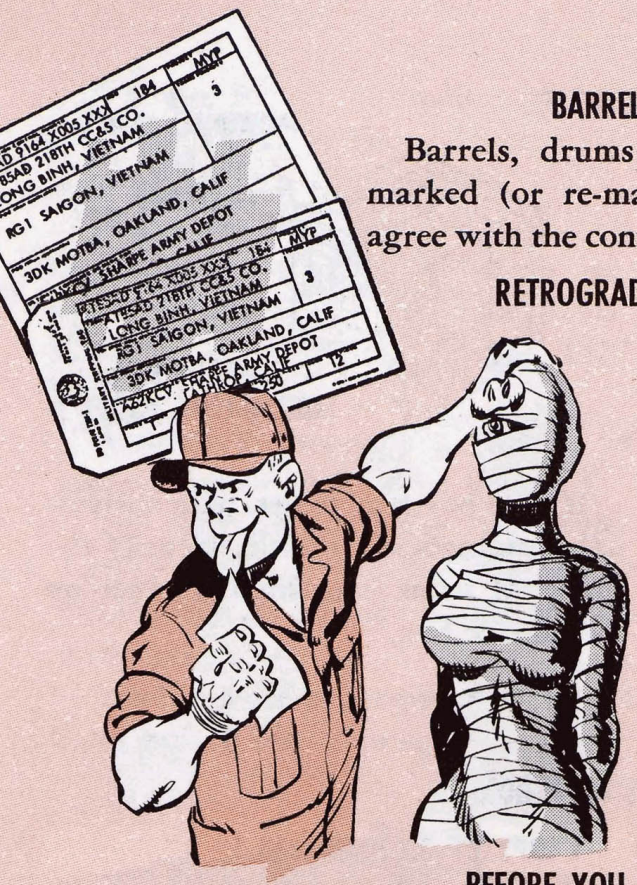
P.S. MORE

BARRELS, TOO

Barrels, drums and pails also get marked (or re-marked) as needed to agree with the contents.



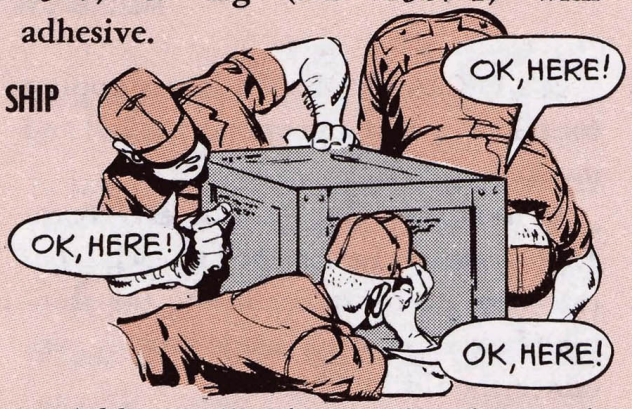
RETROGRADE ADDRESS



Before you attach an address label or tag to cargo going back to "The World," make sure it's completely filled in. All the necessary info should be available—most of it in the message, letter or other directive that told you to move the cargo.

To guard against weather damage—and smudge or rub out of the information—overcoat the filled in label (DD 1387) or tag (DD 1387-1) with adhesive.

BEFORE YOU SHIP



Check each outgoing container to make sure:

All old markings that don't apply are painted out.

New markings match the contents in FSN, name and quantity.

Markings (or packing lists) identify contents without need to open the container.

Address tells who sent it, who gets it and any necessary intermediate delivery points.

MARKING MATERIALS

Here's a list of needed marking materials:

Lusterless lacquer (sand-color), FSN 8010-527-3196 (1 Gal).

Lusterless enamel (sand yellow), FSN 8010-291-0883 (5 Gal).

Stencil ink, black, FSN 7510-191-6030 (1 Gal).

Stencil ink, black, FSN 7510-161-0811 (1 Gal).

Gasoline soluble paint, black, FSN 8010-597-8235 (1 Gal).

Gasoline soluble paint, white, FSN 8010-597-8238 (1 Gal).

Label adhesive, FSN 8040-053-8452, FSN 8040-656-0814, or FSN 8040-664-7073 (1 Gal).

Tags, shipping and stock, FSN 8135-238-6917 (1000).

Packing list envelope, FSN 8105-290-4365 (100).

Protector, packing list, FSN 8105-926-2260 (100).

If you're too far in-country to find these items in supply, with a retrograde date coming up too fast to let you requisition 'em, you can use substitutes.

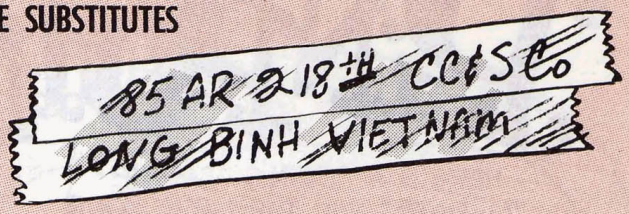
ACCEPT THESE SUBSTITUTES

Paint (any that contrasts with the container or item) for identification marking. Felt tip pens and grease pencils also may be used.

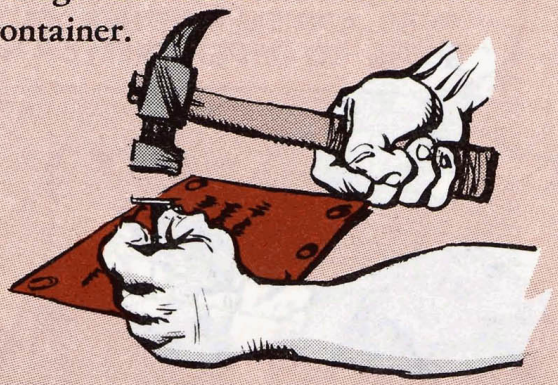
Clear pressure-sensitive tape (non-plaid, that is) is a substitute for adhesive when attaching labels. White or solid color tapes also can provide a place for identification markings with felt tip pen or grease pencil.

Plain white paper can sub for DD 1348-1 when making packing lists for a "Consolidated Pack." But make sure the identification info is complete.

Pen or pencil can be used to mark labels if protected by clear pressure-sensitive tape when no other adhesive is used. (Liquid adhesive might smear 'em.)



Clear (see-through) envelopes may be used as covers for identification markings and address — when attached to container.



Staples and tacks may be used to attach labels or tags to containers — instead of adhesive.

When no stencil brush or roller can be had, a paint brush or wad of cloth dipped in stencil ink or paint can be used for stenciling.

Keep in mind, though, that these make-do substitutes **are subs** — not to be used when first-choice items are handy or can be ordered in time.

Keep in mind, too, that the markings covered up to now are **minimum** markings. Some items also may require special-handling marks or precautions, including identification of dangerous materiel (like explosives) or sensitive and security-type equipment.

If you need a full check-out on these, get your mitts on MIL-STD-129, Marking for Shipment and Storage.

The job's better than half done, though, when you can tell at a glance what's inside a carton (by FSN, name and amount) and where it's going.

PS END

PiNPoiNT FORMS

DA Form 12-4 (Dec 65) —

REQUIREMENTS FOR DEPARTMENT OF THE ARMY ADMINISTRATIVE PUBLICATIONS OTHER THAN REGULATIONS AND CIRCULARS

(AR 310-1)

INSTRUCTIONS: This form will be prepared in ac- ord-

THRU:

After "Navy Comptroller Manual" add these:

NAVY COMPTROLLER MANUAL
(Navy Fiscal Code)

DA Pamphlet 310-8

Transportation Proceedings

DA Posters 95-Series

Defense Management Journal

The Outlook

COMMANDERS CALL SUPPORT MATERIALS

TIPS Personnel Magazine

DA Pamphlet 310-7

Manual for Courts Martial

Army Logistician

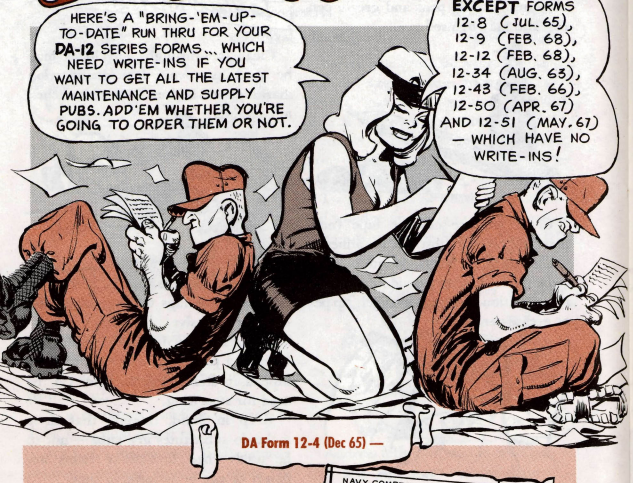
OBSOLETE.

WHAT YOU ORDER - GOES HERE

IMPORTANT

Be sure to fill in the blocks in the exact sequence shown . . . if there is a blank — leave it blank. For the official word see the letters on the write-in's from the publication center.

PINPOINT FORMS



DA Form 12-4 (Dec 65) —

REQUIREMENTS FOR DEPARTMENT OF THE ARMY ADMINISTRATIVE PUBLICATIONS OTHER THAN REGULATIONS AND CIRCULARS (AR 310-1)

INSTRUCTIONS: This form will be prepared in accordance with

THRU:

After "Navy Comptroller Manual" add these:

NAVY COMPTROLLER MANUAL (Navy Fiscal Code)
DA Pamphlet 310-8
Transportation Proceedings
DA Posters 95-Series
Defense Management Journal
The Outlook
COMMANDERS CALL SUPPORT MATERIALS
TIPS Personnel Magazine
DA Pamphlet 310-7
Manual for Courts Martial
Army Logistician

OBSOLETE.

WHAT YOU ORDER - GOES HERE

IMPORTANT

Be sure to fill in the blocks in the exact sequence shown . . . if there is a blank — leave it blank. For the official word see the letters on the write-in's from the publication center.

Write-in

DA Form 12-11 (Jan 66) —

REQUIREMENTS FOR ARMY DOCTRINAL PUBLICATIONS (FM) (AR 310-1)

On page 4 after "Air Defense Artillery Automatic Wpns Gunnery" add these items in the next 21 spaces:

TECHNIQUE
AIR DEFENSE ARTILLERY AUTOMATIC WPNS
Materiel Dev Mgt (Logistics)
International Logistics Mgt
Inst Logistics Management
USSATRACON (Thaster)
Night Operations
Army Cmd Signal Radio & Cable Bn
Maint Mgt in Theaters of Operations
The Personnel Command
AD Arty Employment, Vulcan/Chaparrel
Border Security/Anti Infiltration OP
Division Communications
Riverine Operations
Explosive Ordnance Reconnaissance
Explosive Ord Disposal Unit Operations
Logistics Mgt-Supply Operations Depot
Base Defense
ADA Signal Communications
Air Cavalry Squadron
Field Army Signal Communications
Weather Spt for Field Army Tact Opr
Mgt of Skin Diseases by Co Aldmen in the Tropics

DA Form 12-21 (Oct 67) —

REQUIREMENTS FOR FEDERAL AND DEPARTMENT OF THE ARMY SUPPLY CATALOGS (AR 310-1)

1. TYPE OF REQUIREMENTS — a. INITIAL — b. REVISED
2. DATE — 3. ACCOUNT NUMBER
4. THRU: (Include ZIP Code) — 5. TO — 6. FROM:

Section I after "Master Cross Reference List (RL)" add:

SECTION I
STANDARD INTRODUCTION TO FEDERAL SUPPLY CA
MANAGEMENT DATA LIST (ML)
MASTER CROSS REFERENCE LIST (RL)
TM-DPSC Repair Parts Pamphlet

USE YOUR OWN ACCOUNT NUMBER

DA Form 12-25 (Aug 67) —

REQUIREMENTS FOR TECHNICAL PUBLICATIONS FOR ARMY MOBILITY SUPPORT, CONSTRUCTION, ENVIRONMENTAL, ELECTRICAL GENERATING, RAIL, MARINE AND AMPHIBIOUS EQUIPMENT (AR 310-1)

1. TYPE OF REQUIREMENTS — a. INITIAL — b. REVISED
2. DATE — 3. ACCOUNT NUMBER

INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON PAGE *

4. THRU: (Include ZIP Code) — 5. TO — 6. FROM: (Include ZIP

Section I after "Winches" add these in next 6 spaces:

WAREHOUSE TRUCKS
WINCHES
Detecting Equipment Intrusion
Detecting Equipment, Mines
Spraying Equipment, Paint
Tool Sets, Pioneer
Tool Sets, Pneumatic
Trailer, Special Purpose

In Section II after "Tractors, Wheeled—HEAVY" add these in the next 3 spaces:

HEAVY
Paving Breaker
Stabilizer, Soil
Track, Press

In Section IV after "Trailer Mounted Generator Sets (Power Units)" add these items in the next 3 spaces:

SWITCH GEARS
TRAILER MOUNTED GENERATOR SE (Power Units)
Generator Test Equipment
Utility Pack, Electric MUS
Generating Equipment, 30KW/400 Cycle

PS MORE

Write-in

DA Form 12-11 (Jan 66) —

REQUIREMENTS FOR ARMY DOCTRINAL PUBLICATIONS *(FM)*
(AR 310-1)

On page 4 after "Air Defense Artillery Automatic Wpns Gunnery" add these items in the next 21 spaces:

TECHNIQUE O...
AIR DEFENSE ARTILLERY AUTOMATIC WPNS G...
Materiel Dev Mgt (Logistics)
International Logistics Mgt
Instl Logistics Management
USASTRATCOM (Theater)
Night Operations
Army Cmd Signal Radio & Cable Bn
Maint Mgt in Theaters of Operations
The Personnel Command
AD Arty Employment,Vulcan/Chaparrel
Border Security/Anti Infiltration OP
Division Communications
Riverine Operations
Explosive Ordinance Reconnaissance
Explosive Ord Disposal Unit Operations
Logistics Mgt-Supply Operations Depot
Base Defense
ADA Signal Communications
Air Cavalry Squadron
Field Army Signal Communications
Weather Spt for Field Army Tact Opr
Mgt of Skin Diseases by Co Aidmen in the Tropics

DA Form 12-21 (Oct 67) —

REQUIREMENTS FOR FEDERAL AND DEPARTMENT OF THE ARMY SUPPLY CATALOGS *(AR 310-1)*

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
2. DATE
3. ACCOUNT NUMBER
4. THRU: (Include ZIP Code)
5. TO:
6. FROM:

Section I after "Master Cross Reference List (RL)" add:

SECTION I
STANDARD INTRODUCTION TO FEDERAL SUPPLY CA...
MANAGEMENT DATA LIST *(ML)*
MASTER CROSS REFERENCE LIST *(RL)*
TM-DPSC Repair Parts Pamphlet

USE YOUR OWN ACCOUNT NUMBER

DA Form 12-25 (Aug 67) —

REQUIREMENTS FOR TECHNICAL PUBLICATIONS FOR ARMY MOBILITY SUPPORT, CONSTRUCTION, ENVIRONMENTAL, ELECTRICAL GENERATING, RAIL, MARINE AND AMPHIBIOUS EQUIPMENT *(AR 310-1)*

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
2. DATE
3. ACCOUNT NUMBER

INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON PAGE ...

4. THRU: (Include ZIP Code)
5. TO:
6. FROM: (Include ZI...

Section I after "Winches" add these in next 6 spaces:

WAREHOUSE TRUCKS
WINCHES
Detecting Equipment Intrusion
Detecting Equipment, Mines
Spraying Equipment, Paint
Tool Sets, Pioneer
Tool Sets, Pneumatic
Trailer, Special Purpose

In Section II after "Tractors, Wheeled—HEAVY" add these in the next 3 spaces:

HEAVY
Paving Breaker
Stabilizer, Soil
Track, Press

In Section IV after "Trailer Mounted Generator Sets (Power Units)" add these items in the next 3 spaces:

SWITCH GEARS
TRAILER MOUNTED GENERATOR SE...
(Power Units)
Generator Test Equipment
Utility Pack, Electric MUS...
Generating Equipment, 30KW/400 Cycle

P.S. MORE

DA Form 12-31 (Feb 66) —

REQUIREMENTS FOR ARMY AVIATION PUBLICATIONS For use of this form, see AR 310-1; the proponent agency is the Adjutant General.	1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
	2. DATE / 3. ACCOUNT NUMBER
INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON PAGE 3.	

If you have the form that's printed in red you'll have an easy job to bring this up to date. The form printed in red includes all write-in items authorized through 13 Jan 69, and only 2 have been added since then. If you still have the black form dated Feb 66, you add these: (it'll be easier to add these writein's if you follow the numbers in parentheses; and add the items in the blank space before the number):

Section 1

(33) UH-1C Rotor Wing.
(37) AH-1G Rotor Wing.
(81) OH-6A.
(85) CH-54A.
(89) U-21A.

ALL FIXED WING
ROTOR WING
UH-1C

(109) OH-58 Rotor Wing Aircraft (add it on the red form).
(127) 7.62-MM MG, XM27E1.
(131) 40-MM Grenade Launcher, XM8.
(183) 7.62-MM MG, High Rate, TAT 102A.
(187) 7.62-MM Automatic Gun, Armament, POD XM18.
(191) Mount, Multiarmament Helicopter, XM156.
(195) 7.62-MM Gun, XM41.
(199) 30-MM Gun, XM30.
(203) 7.62-MM, MG, 40-MM Grenade Launcher XM28 (add it on the red form).

DA Form 12-32 (Feb 65) —

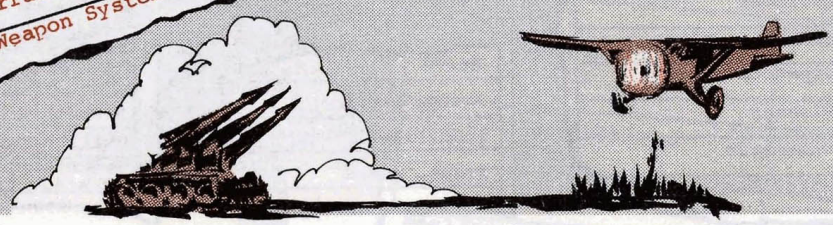
REQUIREMENTS FOR ARMY MISSILE, ROCKET AND AIR DEFENSE FIRE DISTRIBUTION SYSTEMS PUBLICATIONS (AR 310-1)	1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
	2. DATE / 3. ACCOUNT NUMBER

Section II after "Target Missiles" in the next 5 spaces:

Target Missiles
Shillelagh
Redeye.
Land Combat Support System (LCSS).
Chaparral.
TOW Weapon System.

Section III — In the next space after "AN/TSQ-51" add:

AN/TSO - 51
AN/GSA - 77



DA Form 12-35 (Mar 63) —

REQUIREMENTS FOR NUCLEAR WEAPONS PUBLICATIONS (AR 310-1)	1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED	2. DATE
		3. ACCOUNT NUMBER

INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON REVERSE

Section I after "Safety (See Instruction 8)." add:

(See Instruction 8.)
REPORTS (Includes UR Digest.)
SAFETY (See Instruction 8.)
DASA School Catalog

Section III after "Sergeant" in the next spaces add:

PROJEC
PROJECTILE M454
REDSTONE
SERGEANT
MADM
AFD
LANCE

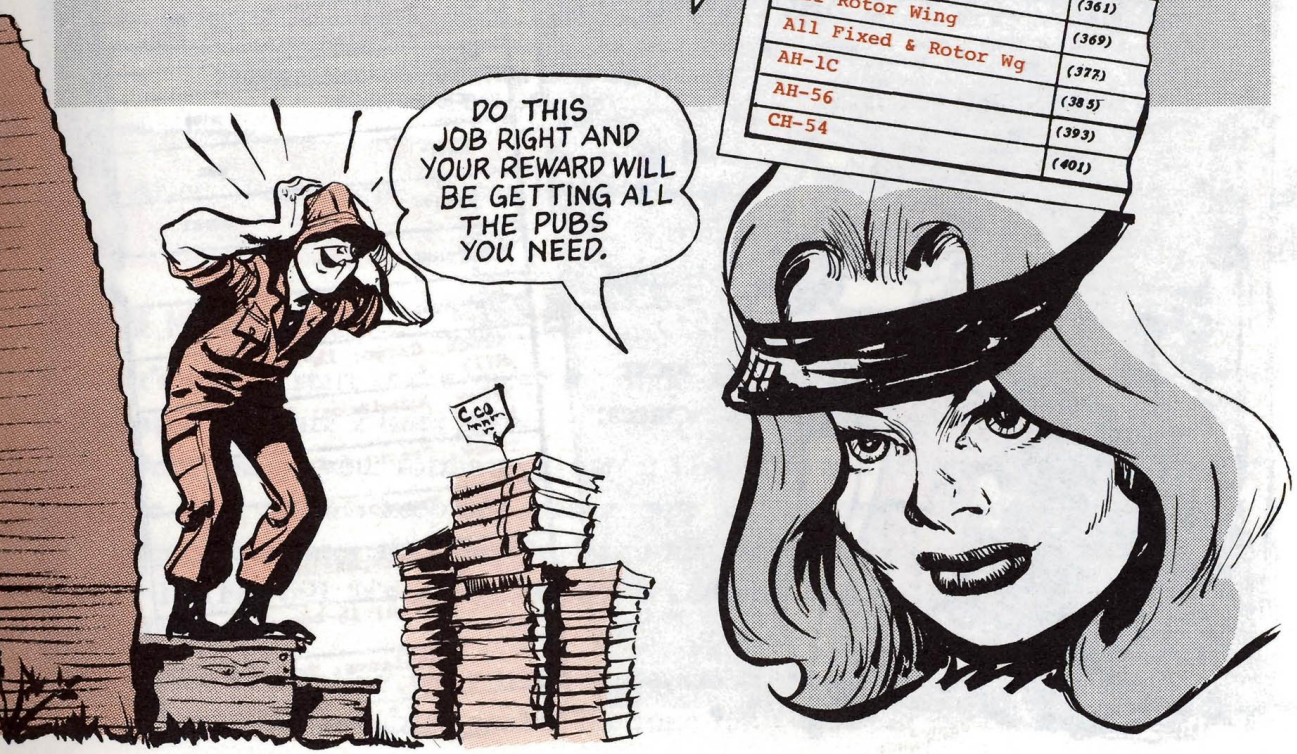
DA Form 12-36 (Aug 64) —

REQUIREMENTS FOR ARMY AVIONICS PUBLICATIONS (AR 310-1)	1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED	2. DATE
		3. ACCOUNT NUMBER
4. THRU:	5. TO:	6. FROM:

Under "Flight Simulators" in the next space after 2B-12:

Skip a space and in the next spaces add:

FLIGHT SIMULATORS	
1CA-1	(321)
2B-3	(329)
2B-12	(337)
OH-6A	(345)
	(353)
All Fixed Wing	(361)
All Rotor Wing	(369)
All Fixed & Rotor Wg	(377)
AH-1C	(385)
AH-56	(393)
CH-54	(401)



PS MORE

DA Form 12-37 (Jul 65) —

REQUIREMENTS FOR ARMY TRACKED VEHICLES PUBLICATIONS
(AR 310-1)

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED	
2. DATE	3. ACCOUNT NUMBER

THIS PART IS PRINTED ON SOME FORMS—IF NOT ADD IT IN.

ADD THESE TO ALL YOUR FORMS.

CARRIER, CARGO, TRACKED, 6 TON	M548; M548E1	(165)
ARMORED RECONNAISSANCE ASSAULT VEHICLE	XM551	(169)
COMBAT ENGINEER VEHICLE	T118E1	(173)
BULLDOZER, TANK MOUNTING	M9	(177)
COMMAND POST	M577; M577A1	(181)
DRIVER TRAINER	M34	(185)
FLAME THROWER	M132; M132A1	(189)
MORTAR, 81-MM	M125A1	(193)
MORTAR, 107-MM	M106; M106A1	(197)

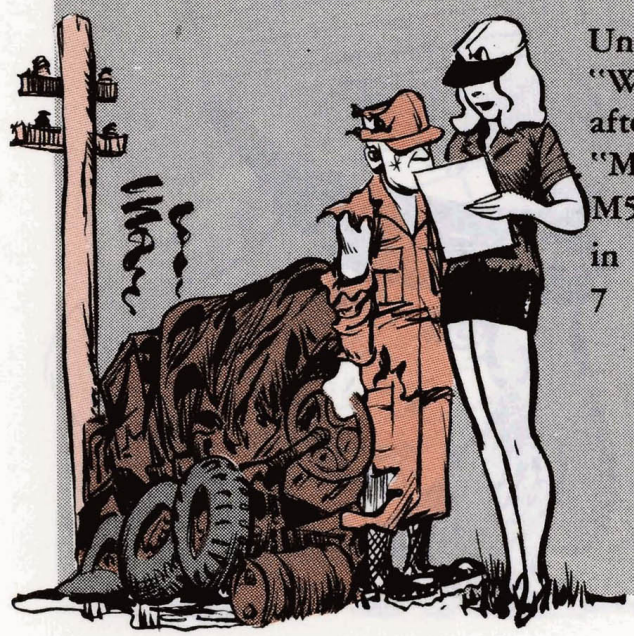
Gun, Antiaircraft Artillery, SP: 20MM, XM163;	(201)
Trainer, Conduct-of-Fire, XM35 (Launcher, XM41 & Target, XM42)	(205)
Trainer, Conduct-of-Fire XM38	(209)
Tank, Combat: 152MM Gun Launcher, M60A1E2	(213)
Tank Bridge Launcher, AVLB	(217)
Chassis 20MM AAA Gun, XM741	(221)
Trainer, Sheridan Weapon System XM40	(225)

DA Form 12-38 (Jul 65) —

REQUIREMENTS FOR ARMY AUTOMOTIVE PUBLICATIONS - TRUCKS
(AR 310-1)

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED	
2. DATE	3. ACCOUNT NUMBER

After "TRUCKS, VAN SHOP M220" add:



Under "Wreckers" after "Medium M543" in next 7 spaces:

Van, Shop	M220
Van, Expansible, 5 Ton, 6x6, M291A2/M291A2C/M291A2D	
Wreckers -	
CRANE	M108
LIGHT	M60
LIGHT	M60E2
MEDIUM	M62
MEDIUM	M543
Truck, Cargo: 1¼-ton, 4x4, M715	
Truck, Ambulance: 1¼-ton, 4x4, M725	
Truck, Cargo: 5-ton, 8x8, M656	
Truck, Tractor: 5-ton, 8x8, M757	
Truck, Van Expansible, 5-ton, 8x8, M791	
Truck, Cargo: 1¼-ton, 6x6, M561	
Truck, Ambulance: Frontline, 1¼-ton, 6x6, M792	

DA Form 12-39 (Jul 65) —

REQUIREMENTS FOR ARMY AUTOMOTIVE PUBLICATIONS - DOLLY, TRAILER AND SEMI-TRAILER
(AR 310-1)

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
2. DATE | 3. ACCOUNT NUMBER

Under "Trailers" and after "Maintenance (Tel Cable Splicing) M367": x-out M367 after "Tank, 400 Gallon" and add M149.

MAINTENANCE (Tel Cable Splicing) M367
TANK, 400 GALLON ~~M367~~ M149

Under "Semi-trailers" after "Van, Supply, 12-Ton M129A1C" in the next two spaces add:

VAN, SUPPLY, 12 TON M129A1C
Van, Electronic, 6 Ton, M348
Chassis, Trailer 3 1/2 Ton M536
2 1/2 Ton M537

DA Form 12-40 (Aug 65) —

REQUIREMENTS FOR ARMY ARTILLERY AND SMALL ARMS TECHNICAL PUBLICATIONS
(AR 310-1)

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
2. DATE | 3. ACCOUNT NUMBER

Under "Training Devices" after "Trainer, Mortar, Pneumatic, M32A1" in the next 2 spaces add:

TRAINER, MORTAR, PNEUMATIC, M32A1
Gun-20MM, Automatic M139
Artillery Firing Platform XM6

Under "Weapons" and after "Small Arms Racks" add:

SMALL ARMS STORAGE RACKS
Gun, Antiaircraft Artillery, Towed: 20MM, XM167

DA Form 12-41 (Aug 65) —

REQUIREMENTS FOR SIGHTING AND FIRE CONTROL EQUIPMENT PUBLICATIONS
(AR 310-1)

1. TYPE OF REQUIREMENTS ☐ a. INITIAL ☐ b. REVISED
2. DATE | 3. ACCOUNT NUMBER

After "Transmitter, Superelevation" add:

TRANSMITTER, SUPERELEVATION
Borescope M1, M2

SOME HELPFUL HINTS

It's wise to start at the top of the blank space when you're adding those items because some are 2 lines long.

Once you get your forms up to date it's easier to add those write-in items as they come in or at least keep one master copy of all forms up to date.

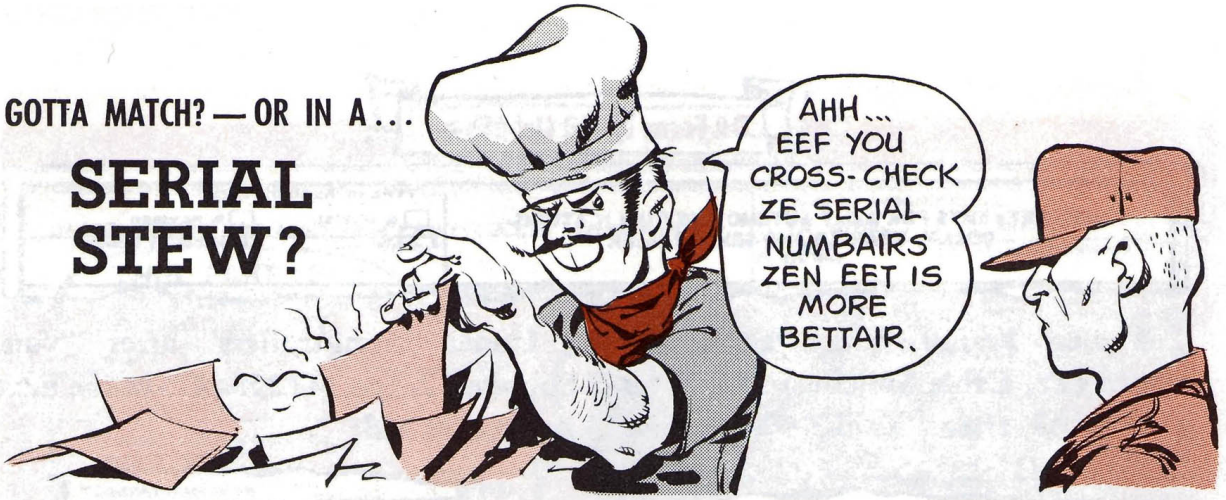
Pencil the dates after the DA Form numbers on page 37 of your DA Pamphlet 310-10 (Feb 69). It's easy to erase and add new dates as the old forms are made obsolete.

When you receive your write-in notices from the Publications Center, make sure you send them back within the time limit specified on the form.

PS END

GOTTA MATCH? — OR IN A . . .

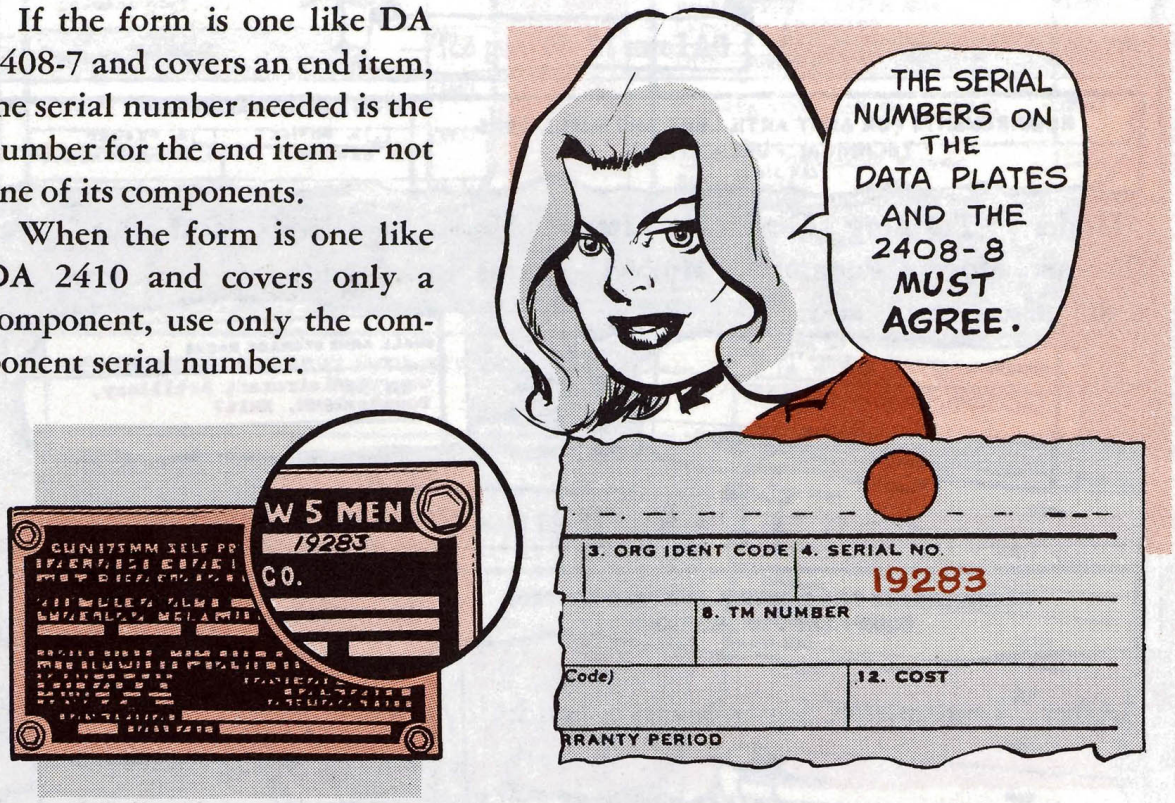
SERIAL STEW?



Some outfits are making a sloppy "serial stew" out of their equipment records. They fail to cross-check serial numbers with equipment data plates and block 4 of DA 2408-8. It makes a mish-mash of all their records.

If the form is one like DA 2408-7 and covers an end item, the serial number needed is the number for the end item — not one of its components.

When the form is one like DA 2410 and covers only a component, use only the component serial number.



(Some commo end items don't have serial numbers. In these unusual cases, pluck the "control number" from the upper left of DA 2408-8 and put it in the serial number block, too. This becomes the end item serial number from now on — for DA 2408-8 and all other records.)

To make sure you're not in a serial number stew:

1. Check the end item data plate and make sure the serial number there matches the one in block 4 of DA 2408-8 (or block 3 of DA 2409 if you have that instead of a -8).
2. Next time you make out any other form (like DA 2408-7 or DA 2407, f'rinstance) for the end item, make sure the number in the serial number block matches the one in block 4 of DA 2408-8 (or block 3 of DA 2409).

3. Next time you make out a form that covers only a component (like DA 2410, DA 2408-19 and some DA 2408-16's for aircraft), check the serial number against the serial number for the component.

Major blocks that need a checkout are:

Bl 1, DA 2408-4.
Bl 2, DA 2407, DA 2408-10, DA 2408-15, DA 2408-17.
Bl 3, DA 2408-5, DA 2408-12, DA 2408-13, DA 2408-14, DA 2408-18 and DA 2409.
Bl 4, DA 2410, DA 2408-7, DA 2408-8, DA 2408-16 and DA 2408-19.
Bl 10, DA 2402.
Bl 16, DA 2407 for multiple items.

Make sure those serial numbers come from the right data plate and match the numbers as shown on DA 2408-8, and no inspector can cook up a stew that'll put you behind the 8-ball.

SKIN DECON PAD

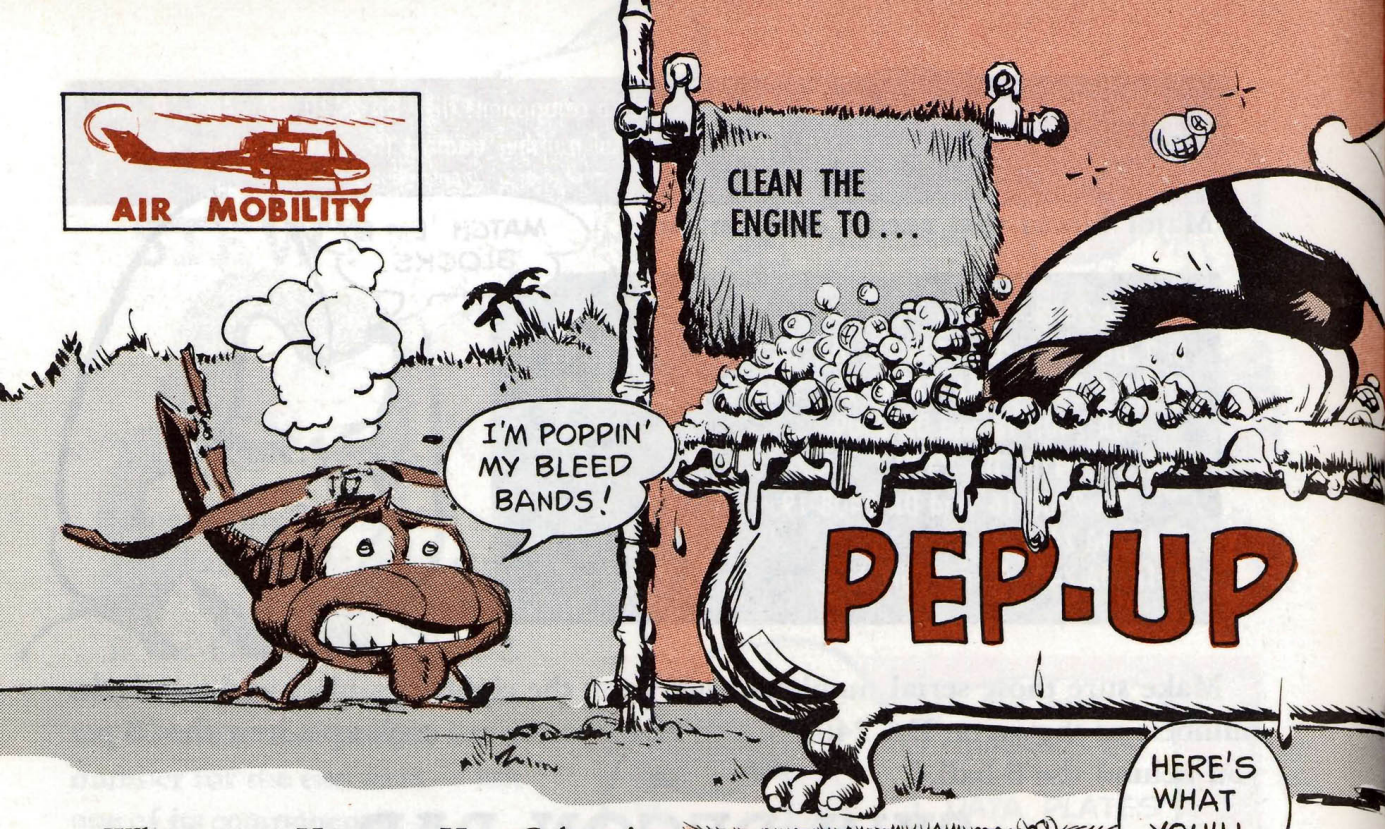
Yep. The skin wiping pad in your M13 decontaminating and reimpregnating kit, FSN 4230-907-4828, should fit over three fat, gloved fingers—like it shows in fig 6, TB 3-4230-207-10 (Mar 66). But, if the pad in your M13 kit circles only two fingers, don't bust it trying for a 3-finger loop...you've got a short pad. But, it's OK. Just use your pad like it says in the TB. Later kits will provide 3-finger pads.

PUBS FOR OTHER SERVICES

You can get info for ordering Navy, Air Force, Marine Corps, and Defense Supply Agency pubs and blank forms in Ch 6 (Jun 66) to AR 310-1 (Mar 62). Sect V of the change lists the addresses as well as the form to use for your requests.

MTOE IS A MUST

Sure you can use AR 725-8 (Oct 68), para 7a(2), to hang on to or request major components that've been pulled from your sets, kits, outfits, etc. But that's just a temporary OK. Your outfit also has to put in an MTOE listing the needed items. Check your local SOP for scoop on MTOE's, and see AR 310-31, Sect IV.

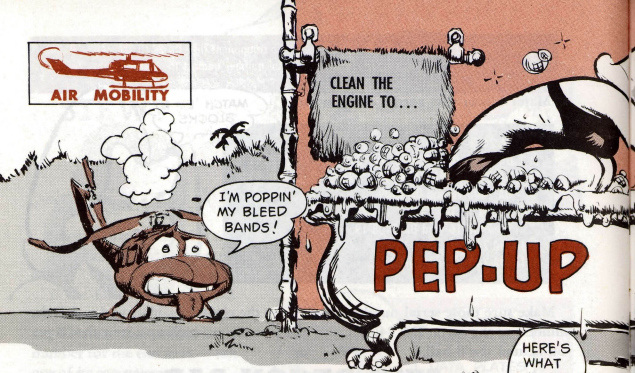


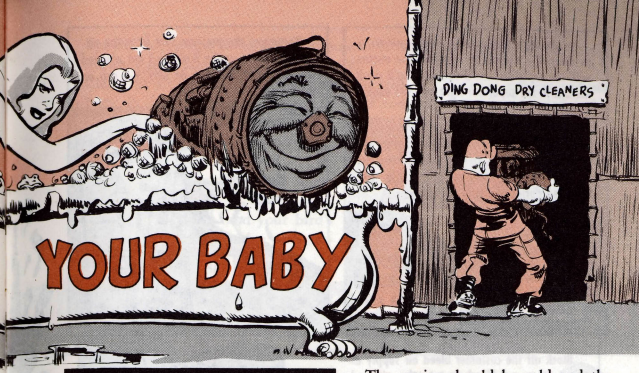
When your Huey or HueyCobra is running a high exhaust gas temperature, has a skewered up air flow with bleed band popping and is generally under par she needs prescription R_x P-D-680, Type I.

Yessir-e-e-e, a dose of dry cleaning solvent followed by a water rinse is the preferred way to clean the innards of your engine to prolong its life.

One or two cleanings are guaranteed to get rid of dirt that coats the stator and compressor blades and to restore lost engine power.

Before you crewchiefs and mechanics reach for the solvent, tho, be sure you stash pencils, pens, matches, watches — any loose items. You're going to motor over and run the engine, and the suction developed will snatch dropped items. You know what that means . . . FOD for real!





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Corrosion of the compressor 4th stage aluminum discs in the T-53 engine has reared its ugly head, due to the use of unauthorized cleaning solvents. NEVER use solvents such as Turco 4217, MIL-C-25769 or MIL-C-22543 to clean a T-53 engine.

GATHER MATERIALS

Here's how to go about cleaning the T53-L-11 engine —

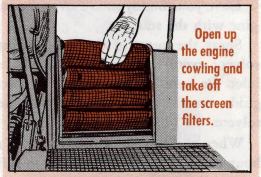
First off, latch on to a quart of dry cleaning solvent.

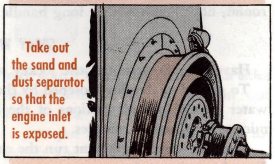
If you're lucky enough to have air pressure handy pour the solvent into the pneumatic oil gun which is part of the organizational maintenance A, B, or C tool kit.

Out in the dusty boonies get a hand-pumped water fire extinguisher. Make sure it's empty and clean. Pour the solvent into the extinguisher so you'll be able to spray 1 quart. With your trusty general mechanic's tool kit in hand, make for the bird. Take a couple of helpers with you.

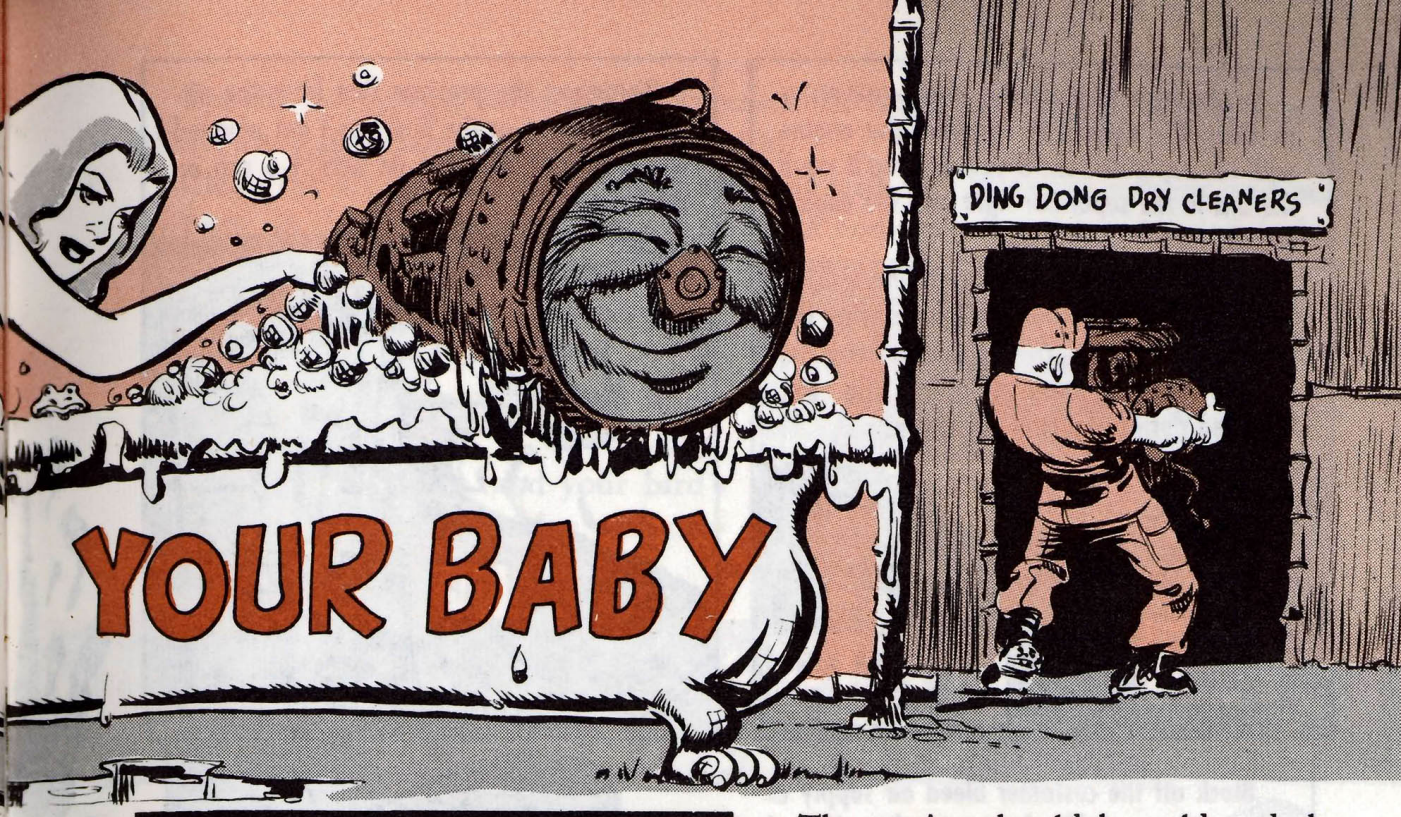
The engine should be cold and the bird parked in a maintenance area where you can get water.

OPEN 'ER UP





PS MORE



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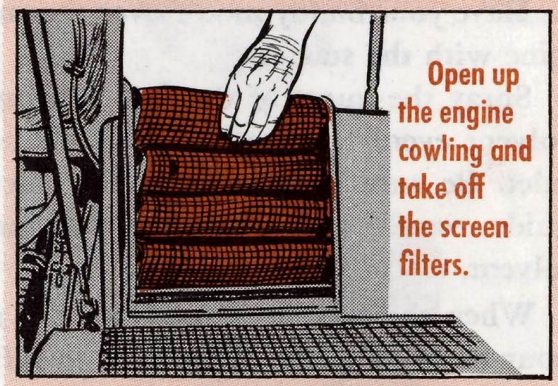
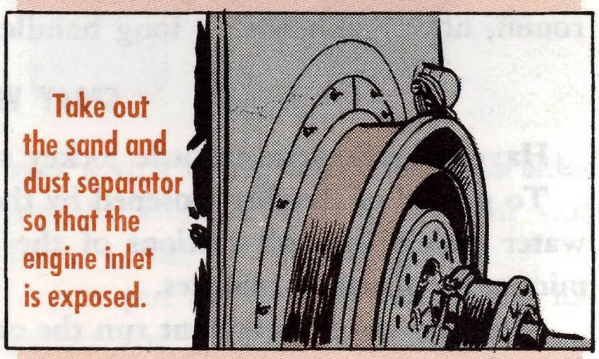


Open up the engine cowling and take off the screen filters.

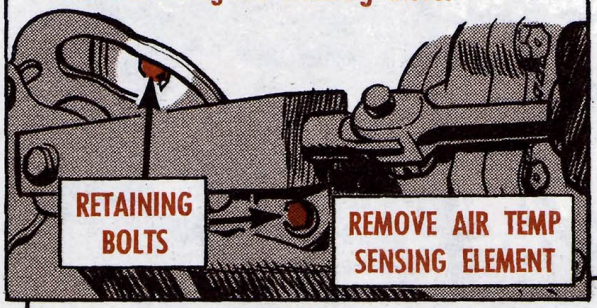


Take out the sand and dust separator so that the engine inlet is exposed.

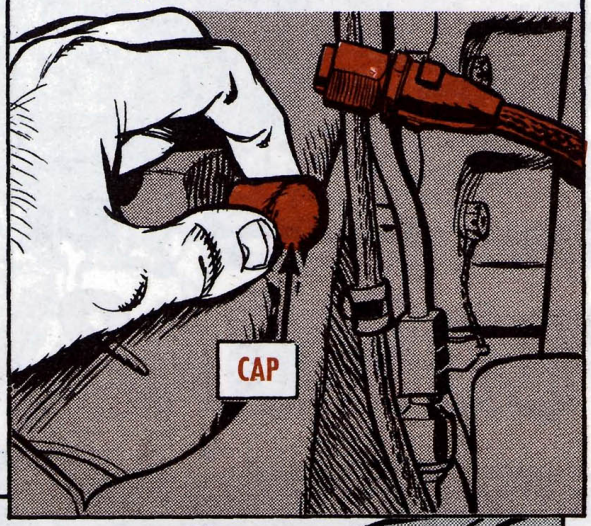
PS MORE

No shortcuts here, please! Like — never try to clean the engine by spraying the engine with the separator on. If you do, you'll wash the dirt in the separator right into the engine (ugh!).

Next, take the inlet air temperature sensing element off the inlet housing by removing the four retaining bolts. You do this to keep the element from getting plugged with dirt loosened during the cleaning chore.



Disconnect the pressure line from the air-bleed actuator so the line won't get plugged with loosened dirt. Put an AN929-6 cap on the fitting.



Block off the customer bleed air supply at the customer airbleed port in the airbleed adapter assembly by using Cover, FSN 2840-980-9423.

SPRAY WITH SOLVENT

Have your buddy motor over the engine with the starter.

Spray the quart of the dry cleaning solvent evenly thru all sections of the inlet. Be sure both sides of the inlet guide vanes are covered with the solvent.

When the solvent is used up stop motoring the engine and let it set for an hour or so to allow the solvent to soften and loosen the caked-on dirt.

The dirt really builds up on inlet guide vanes, so go over them with a small, round, fiber brush with a long handle when you return from your break.

SPRAY WITH WATER

Have your favorite throttle jockey start the engine and run it at flight idle.

To get rid of the dirt loosened by the dry cleaning solvent, spray clean, fresh water evenly into all sections of the inlet housing at a rate of 2 gallons per minute for about 2 minutes.

After the water treatment run the engine from 2 to 5 minutes to dry it out. Shut down the engine.

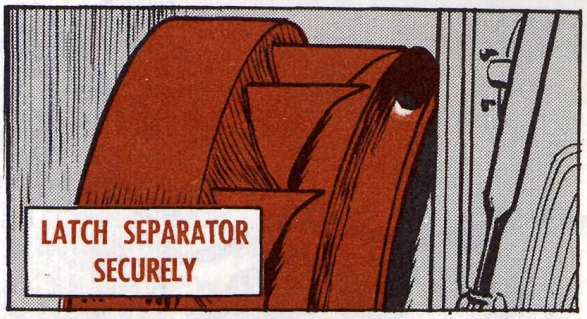
Eye the inlet guide vanes and compressor for cleanliness. If the engine is still dirty, a second cleaning should do the trick.

Clean the air temperature sensing element with dry cleaning solvent and put it back on the inlet housing. Secure the nuts and lockwire the mounting bolts.

Remove the cap from the fitting and connect the pressure line at the air-bleed actuator.

Put the separator and screen filters back.

Close the cowlings, and your bird's ready to take to the wild blue with new pep, vim and vigor.



IT'S WHAT'S UP FRONT THAT COUNTS!

The view from the front reveals more than the view from the back.

The old tail rotor crosshead bearings in your Huey and HueyCobra are no exception. The front side shows more of the ball bearings than the back side.

If you don't know which is which the 2 bearings can be put together bas-ackwards. Put in that way you have maybe an hour or less flying time before the bearing set fails, followed by the tail rotor.

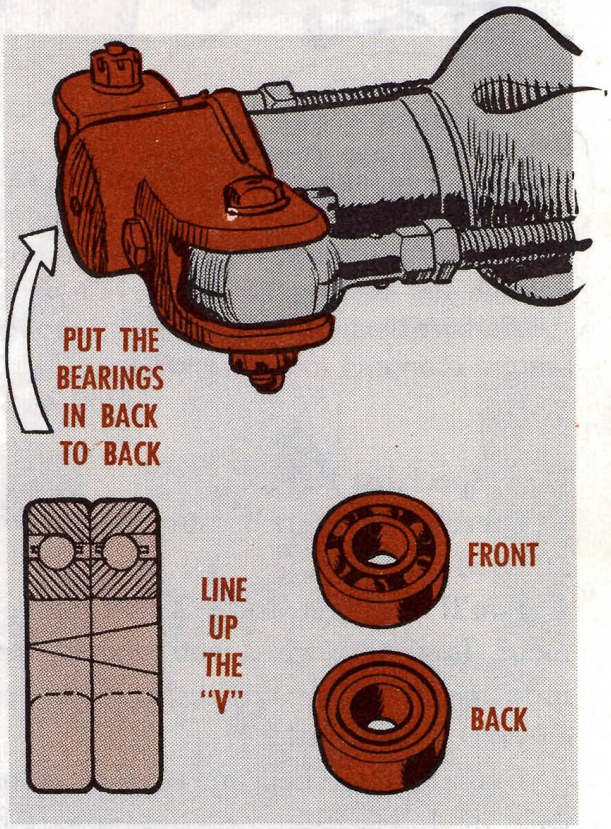
The bird organizational maintenance pub tells you to put the bearings together back-to-back, see?

As an additional guide the bearings are etched to form a "V" when they're back-to-back. A look at the part numbers will also clue you which bearing set is being used.

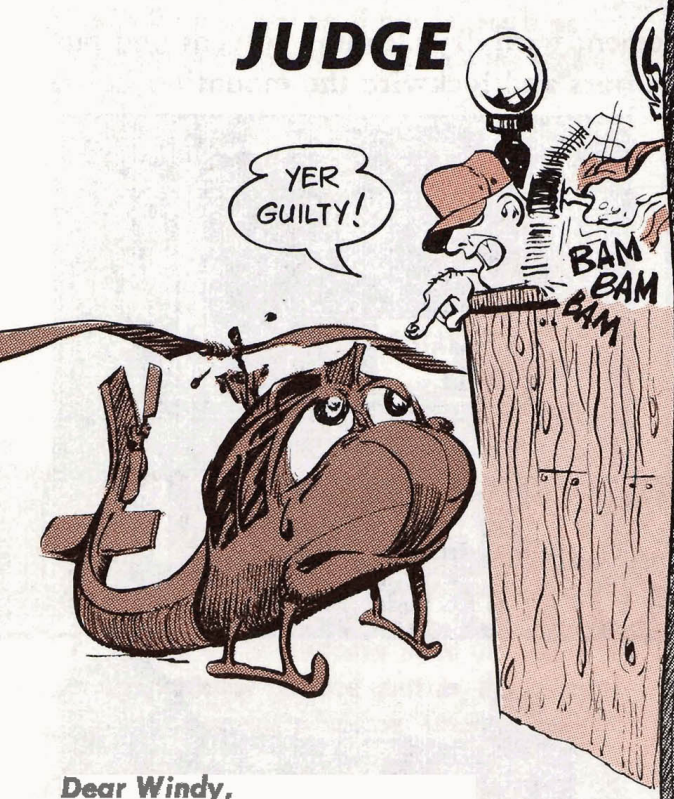
If you're lucky enough to have the new crosshead bearing, P/N 204-011-769-1, FSN 3110-135-0563, there's no chance of a mixup.

This baby has a double row, inner race with a single outer race. Both sides are the same so there's no front and back . . . no "V" etch needed.

Just put the 2-piece bearing set together and you're in the tail rotor assembly business.



YOU BE THE JUDGE



Dear Windy,

I've looked high and low — without success — for the allowable play in the Huey (UH-1D/H) droop compensator connecting link rod-end bearing, FSN 3110-[illegible]73-5072.

What are the limits, Windy, which would require changing the rod end?

SP6 R. McC.

Dear Specialist R. McC.,

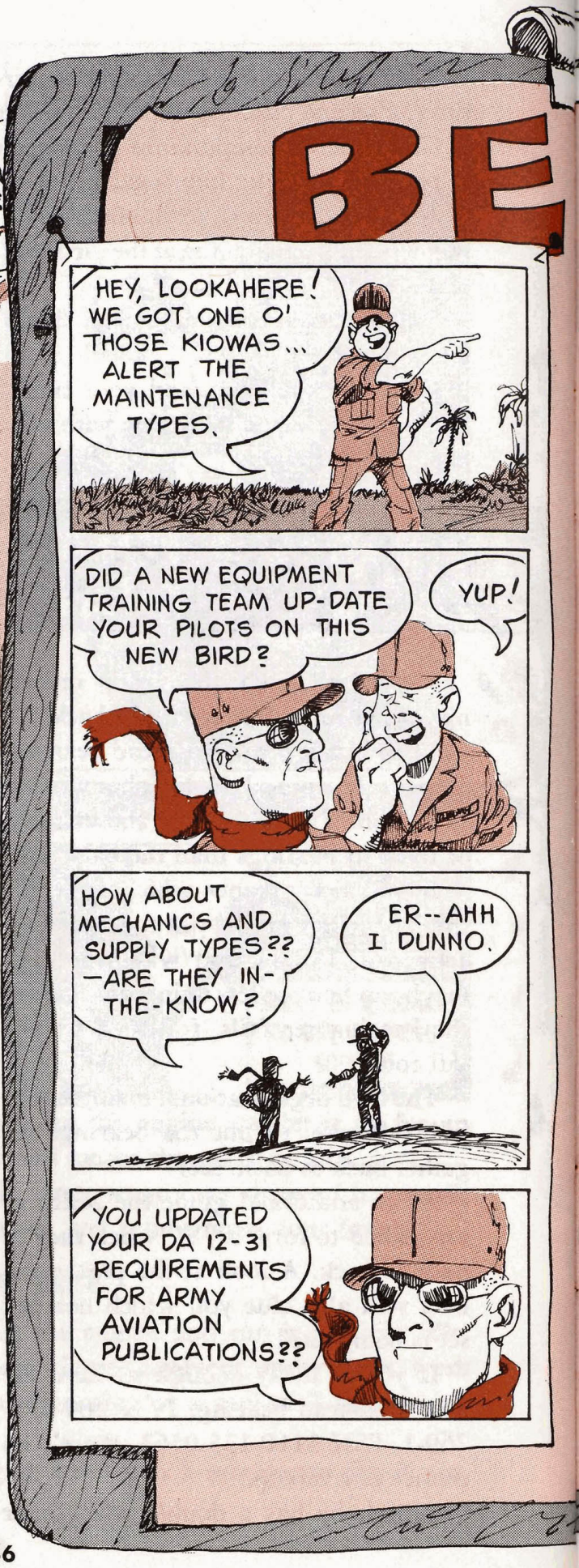
There're no limits because you're not allowed any play.

You'll still get some slight movement, however, when you plant your mitts on the link during a looseness check . . . no sweat!

'Course, if the bearing is worn from lack of lubrication or contamination you'll have a very loose link on your hands.

Para 25 of TM 55-405-3 (12 Jul 66) lists "excessive looseness" as one of the conditions which call for a bearing change.

Windy



YOU BE THE JUDGE

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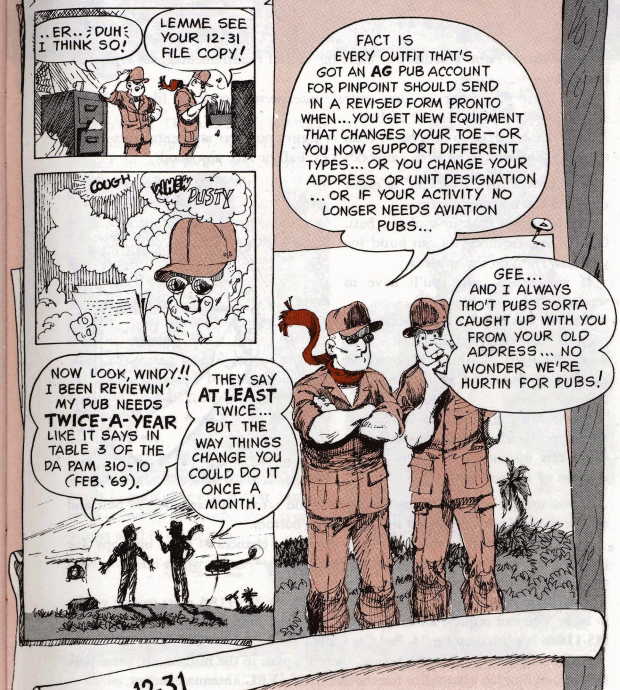
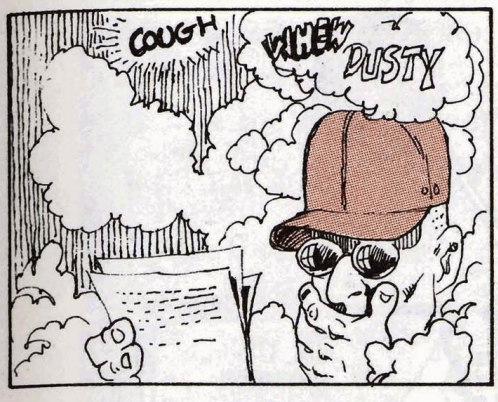
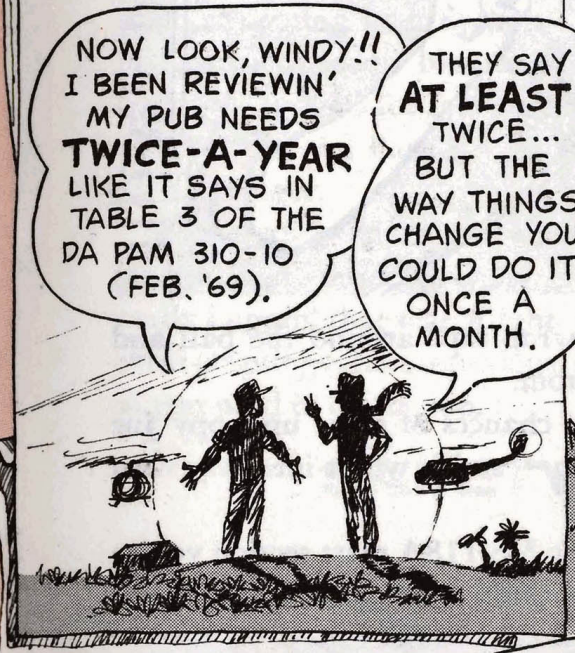
Windy

BE IN-THE-KNOW

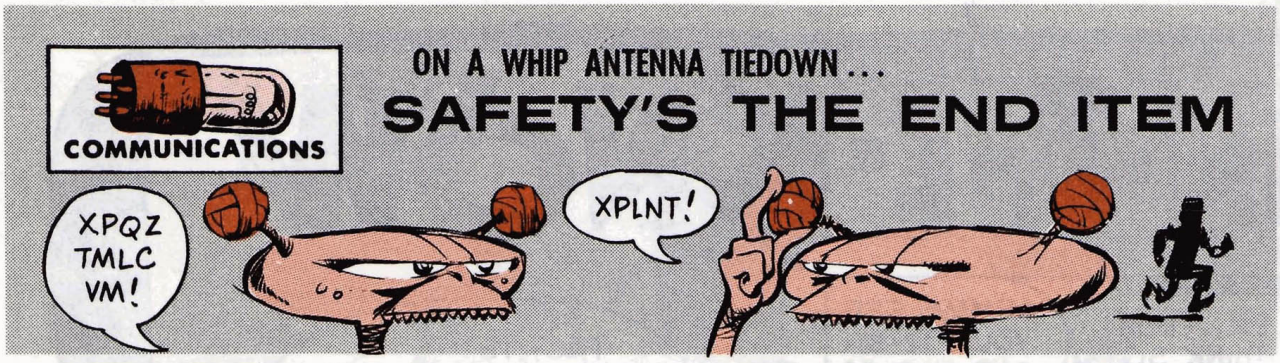


IN-THE-KNOW





DA Form 12-31



A tied-down radio antenna can meet the official requirements, pass every test, but still—

Still, it can play a part in some entirely unexpected accidents, like maybe the antenna tip in a Joe's face, or eyeball.

Man doesn't have to be a brain-trust to figure out that accidental sort of antenna-tipping won't be doin' anybody's eyeball or face any good.

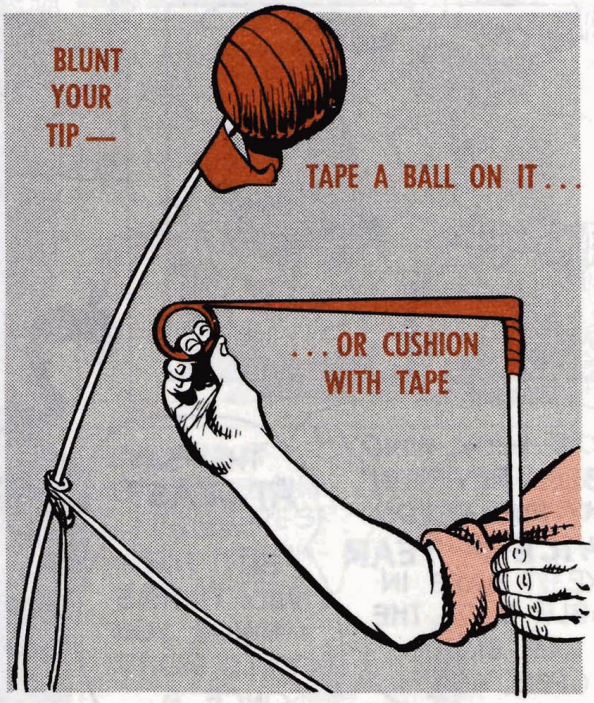
So it takes a little somethin' to make that tied-down antenna safer.

Like a rubber ball, or a plastic ball. Or a plastic cushion you can build for yourself, right on the antenna.

If you use a ball, you'll have to scrounge one up yourself.

But you can go after a 30-foot roll of polyethylene electrical insulation tape with FSN 5970-240-0620. It's listed on Pg 3.44 of Fed Cat C5970-IL-A (Nov 69).

Just wrap the tape around the antenna tip, stretching the tape as you go. Keep this up until you get a comfy cushion of the soft stuff.



If you use the rubber-ball method, you could wrap tape around the ball and anchor the ball with the tape a little below its bottom.

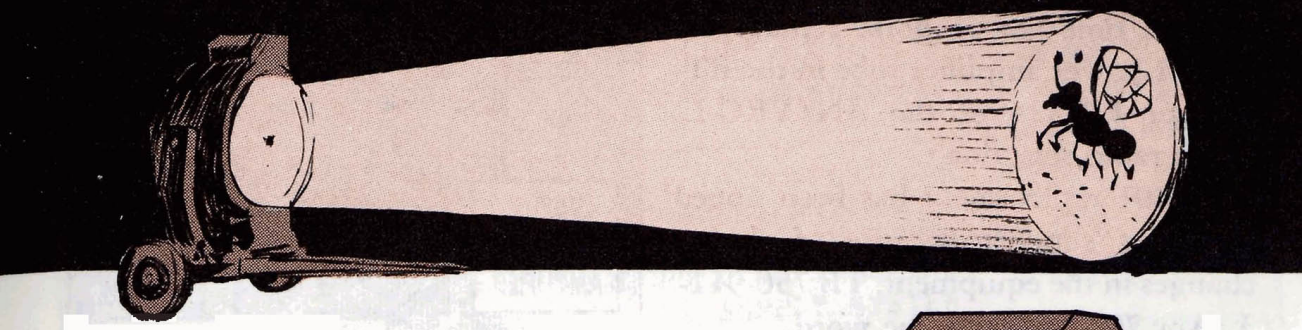
The extra protection should whittle down the chances of some unhappy Joe getting his eyeball skewered by a stray antenna tip—and it won't interfere with the performance of your antenna.

Further along the sunny side, if you're using the MS-118A mast section you're in luck. You can request an antenna tip assembly (FSN 5985-930-7223) for the MS-118A. It's listed on Pg 74, Fed Cat C5985-IL-A (Nov 69).

And for bright times in the future, there's a plan in the mill to authorize protective antenna tip assemblies for the AT-1095/VRC antenna element.

Meanwhile, you can use a ball, insulating tape, fishing corks, bottle stoppers, styrofoam and other non-conductive items, as field expedients.

SEARCHLIGHT BUGGED BY BUGS?



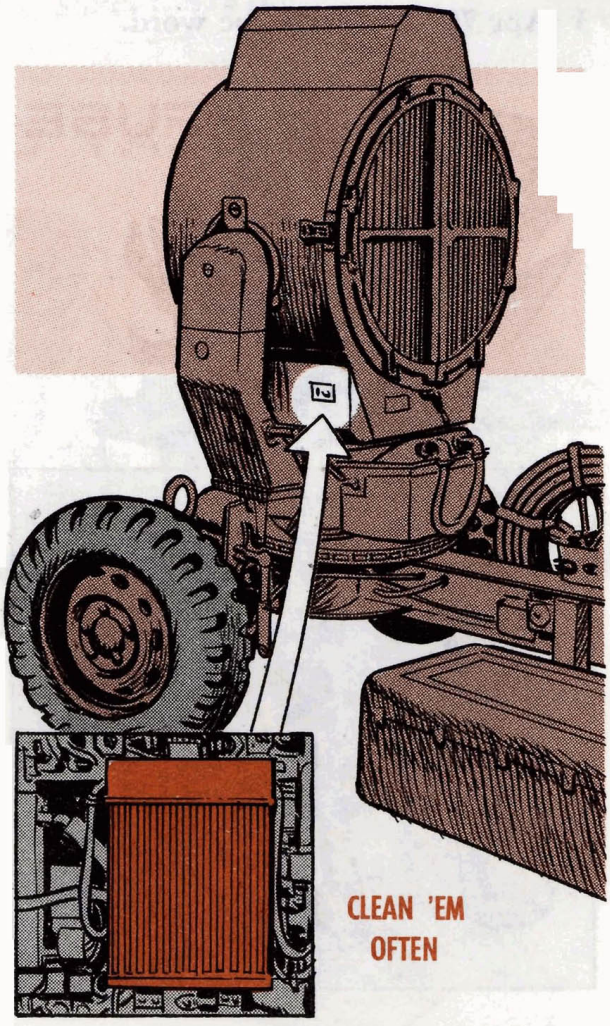
Insects—? They can mean bad times sometimes—especially when they zoom around an AN/TVS-3 searchlight set and end up in the fan motor.

They can clog the exhaust blower filter and the heat exchanger cooling fins. That can knock out your searchlight pronto.

What's the answer—?

TM 11-6230-220-12 (Dec 67) gives you the word on daily cleaning of the exhaust blower filter and heat exchanger cooling fins. Eyeball Para 4-4 for instructions on blower filter PM, Paras 4-4 and 4-6 for info on exchanger cooling fins, and Para 5-3 for servicing the exchanger.

And if you're in an area where flying insects and miscellaneous crud are really buggin' that searchlight, just add extra cleanings and inspections, as many as you need to do the job.



CLEAN 'EM OFTEN

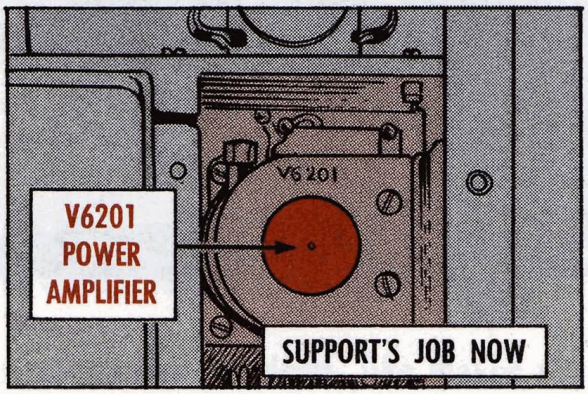
SAFETY STRAP STORY

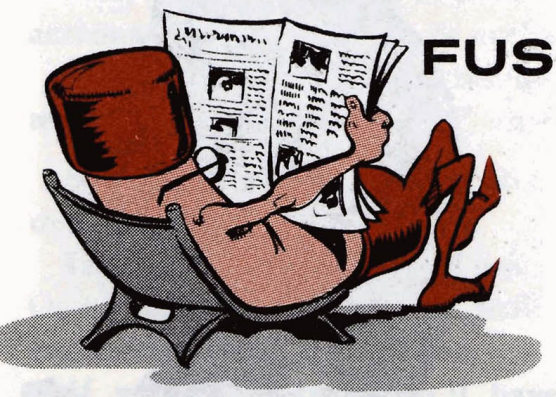
Order any waist size LC-23 Lineman's Belt and it includes the Safety Strap. If you just need the strap, though, look up:Strap, Safety Industrial in SC 4230/40-IL (Jul 67). FSN 4240-203-3825 is leather . . . 4240-752-9715 is nylon.

VRC-12 PA TUBE NEWS

Next time you've gotta replace the V6201 power amplifier tube in the RT-246 or RT-524 of the AN/VRC-12 series radio sets, don't.

V6201 replacement has been upped to direct support because of design changes in the equipment. TB 750-911-3 (Apr 70) will have the word.





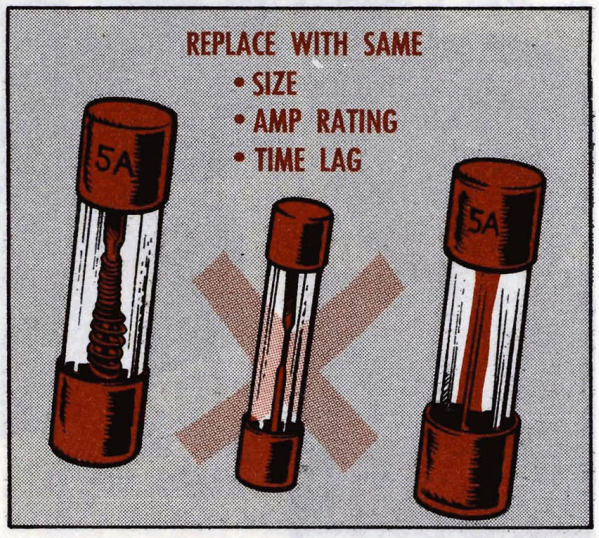
FUSE NEWS

Don't sweat it if the replacement fuse you asked for comes through with a higher voltage rating than what you wanted. Use it.

The thing you gotta be sure of is that the amperage rating is what your TM calls for and the voltage rating is the same or higher. Like, if you need a 5-amp job and you get a 10-amp replacement, send it back. The amp rating can't vary; neither can the blow time. You need a slo-blo for a slo-blo, etc.

Naturally, any replacement you get has gotta be the same shape and size as the one's it's replacing.

But like we said, voltage variance is allowable . . . providing it varies upwards.



CAP AND CONTACT

Now receive this well and watchfully, you AN/PRC-10 radio-set types . . . you can get the dial lamp caps with the contact springs inside the caps.

If you're not getting the cap and spring with FSN 5820-248-9139 as you see it on Pg 8, TM 11-5820-292-20P (May 69), take a crack at FSN 5820-717-7498, which should get you the whole cap assembly.

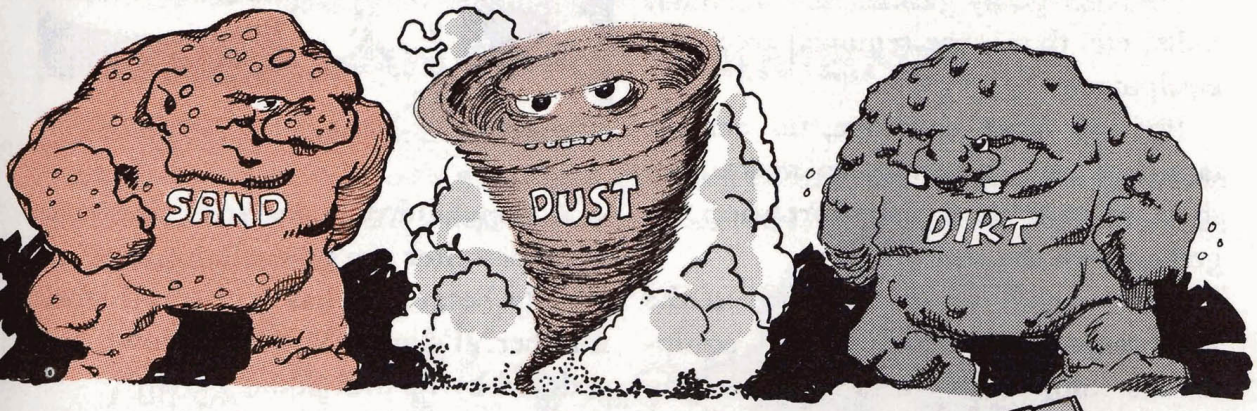
WESTERN ONION

CABLE COMMENT

WESTERN ONION
WHEN YOU CARE
ENOUGH TO SEND
THE VERY BEST

SENDIN' CX-4245/G CABLE ASSEMBLY TO SUPPORT FOR REPAIR? IT'S USED ON THE COMBAT INTER-AREA COMMUNICATIONS SYSTEM. BE SURE TO INCLUDE THE CLAMPS, EVEN IF THEY'VE BEEN KNOCKED OFF. OTHERWISE, THE CABLE ASSEMBLY COULD BE DEADLINED A SPELL, SINCE THERE'S NO STOCK OF CLAMPS IN THE SUPPLY SYSTEM.

THEY'LL DO YA' DIRT

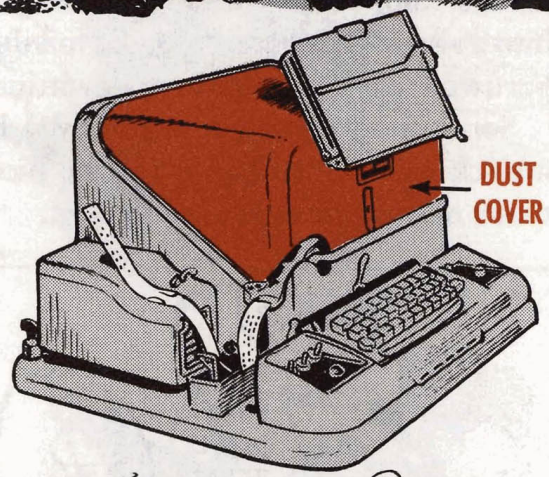


Sand and dust and dirt . . . they're the things that hurt . . .

. . . hurt the TT-98()/FG and TT-76()/GGC teletypewriter units that help make up the AN/VRC-29 radio teletypewriter set in tracked vehicles like the M113 personnel carrier and the M577 command track.

Be sure the dust covers are installed and protecting your teletypewriters when they're not in use. This is 'specially important while the vehicle is moving and the dust clouds are gathering.

Otherwise, dust and dirt and what-have-you will really have a field-day grinding along with the gears and bearings of your TT's.



EVERY LITTLE PIECE HELPS

A screw taken from a TT-4( )/TG teletypewriter set . . .

Maybe a gasket from the M-80/U dynamic microphone . . .

Possibly some component of the AN/VRC-12 series of radio sets . . .

Thing is, whenever you remove any part — either for repair or exploratory reasons — and end up sending your equipment to support, one rule holds:

Send along any gaskets, screws, nuts, bolts, etc. that were removed from the equipment.

Put 'em in an envelope, tie 'em on, tape 'em on—any way to make sure they make it to the support shop together with the end item.

That way, support won't be in the predicament of repairing the equipment's known miseries, then running into a situation where a piece of missing hardware costs a lot of extra downtime.

Sometimes, there might not even be a stock number available for the piece that's missing from the equipment.

This could mean a few complications and holdups, like higher-level fabrication, for example.

A copyholder, f'rinstance, for your teletypewriter can't be ordered as an assembly because it has no overall stock number. It's gotta be broken down and ordered by its individual parts.

Takes time. So, you'd definitely include any removed copyholder with the teletypewriter you send to support.

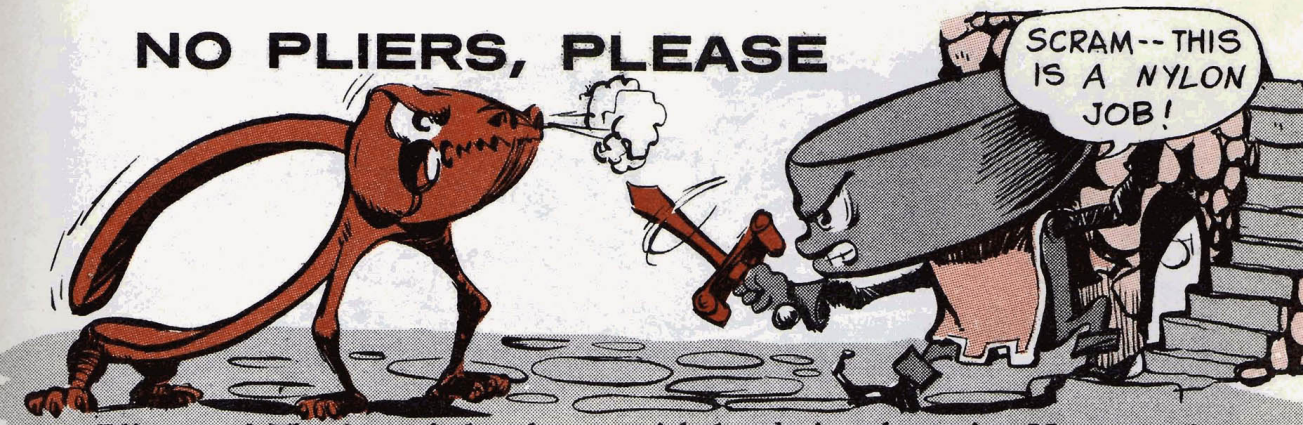
Make it a special point to send support all the parts you have—even if they seem bad. In some cases they may be usable.

'Course, small parts **do** sometimes get lost in the field or on maneuvers, and there's not much you can do about that except be careful.

But when it comes to hangin' onto regular removed parts, and sendin' 'em to support along with your end equipment, that's where you can be real careful.

And that's where it counts.

NO PLIERS, PLEASE



Pliers . . . ? They're strictly taboo on nickel-cadmium batteries. Never use 'em. Tightening those metal plier jaws on the cell filler vent caps could cause the caps to crack. Use the nylon wrench that's issued with the battery; it's FSN 5120-059-4876 on Pg 3.312 of Fed Cat C5120-IL-A (Jan 69), if you need one.

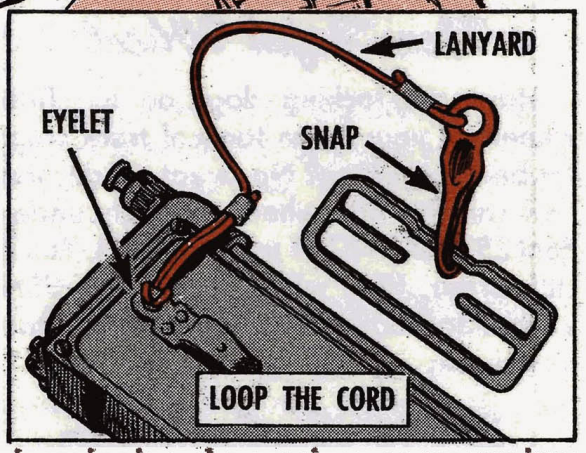
LANYARD LAMENT

For the want of an eye the chassis was lost.

No poet wrote it. That's a straight PM fact, taken from the pen which wrote the last DA Form 2407 work request on an AN/PRR-9, AN/PRT-4 squad radio lanyard eyelet.

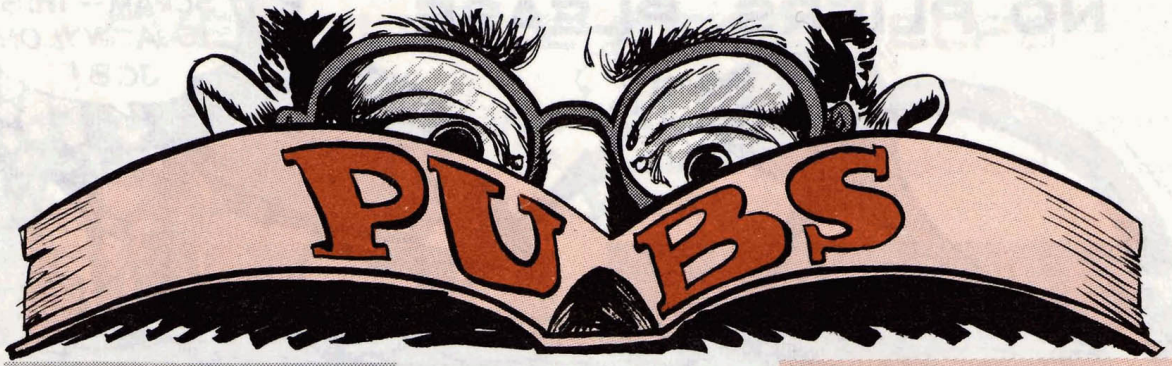
Some Joes force the lanyard snap through the eyelet on the receiver or transmitter cases instead of looping the lanyard cord through the eyelets. Result, regularly, is that the eyelet breaks off.

Follow-up result: the whole chassis, or case, must be salvaged because the eyelet can't be repaired.



'Nother method of breaking the eyelet is swinging the receiver or transmitter by the lanyard.

So-o-o-o, keep the snap end of the lanyard away from the eyelet . . . and swing your partner.



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Jun 69), and Ch 2 (Oct 69), TM's, TB's, etc.; DA Pam 310-6 (Jul 69), and Ch 1 (Oct 69), SC's and SM's; DA Pam 310-7 (Sep 69), MWO's and DA Pam 310-9 (Apr 68), COMSEC Pubs.

TECHNICAL MANUALS

TM 5-2420-206-20P, Oct, Medium Wheeled Tractors.
TM 5-3740-208-23P, Oct, 40 GPH Fog Insecticide Sprayer GED Skid Mtd.
TM 5-3805-210-20P, Sep, Graders.
TM 5-3820-230-20P, Oct, 220 Lb 3 Wheel Pneum Drill.
TM 5-3830-236-12, Oct, Tractor Mounting Treedozer.
TM 5-4120-296-13, Sep, 18,000 BTU Air Cond.,
TM 5-4320-250-20P, Oct, Centrif Pump: Skid Mtd GED POL.
TM 5-4520-204-20P, Oct, 50,000 BTU Space Heater.
TM 5-6630-200-25P, Oct, Pershing.
TM 9-1005-229-12, Oct, M3 M3A1 .45 Cal Submachine Gun.
TM 9-1005-286-20 and -20P, Nov, XM167 20-MM Towed AA Gun.
TM 9-1005-299-12, Sep, Armament Subsys XM35 for AH-1G.
TM 9-1025-200-12 C5, Nov, M114A1 155-MM Howitzer.
TM 9-1300-203/3, Sep, Arty Ammo.
TM 9-1425-399-25, Oct, Pershing.
TM 9-1430-268-15P/1, Oct, Nike-Herc.
TM 9-1430-503-25P, Aug, AN/MPQ-34 Radar Set.
TM 9-1440-250-215P/3/1, Sep, Launch Set Control-Ind C-2620B/TSW C-7590/TSW and C-7590A/TSW.
TM 9-1440-500-25P, Aug, Hawk Launcher.
TM 9-2350-230-25P/2, Sep, M551 Sheridan.
TM 9-4935-385-20P, Oct, Pershing.
TM 9-4935-501-25P, Aug, Hawk.
TM 9-6650-212-12, Oct, Observation Telescope.
TM 9-6920-378-20P, Nov, Pershing.
TM 9-8140-375-20P, Oct. Pershing.
TM 10-500-5 C2, Oct, Airdrop from C-7A (Caribou).
TM 10-500-21, Aug, Rigging Full Tracked Tractors.
TM 10-3930-231-20P, Sep, 4,000 Lb Cap GED Forklift.
TM 11-621 C9, Nov, AN/GRC-41 Radio.
TM 11-5820-202-10 C7, Nov, AN/GRC-26 Radio.
TM 11-5820-498-12 C2, Oct, AN/GRC-125 AN/VRC-53 OA-3633/GRC Radio Sets.
TM 11-5820-727-12, Sep, AN/TRC-132 Radio Term Set.
TM 11-5895-453-15 C1, Sep, AN/MRC-69 Radio Set.
TM 55-1940-219-14, Sep, 17 Ft Fiberglass Air Driven Boat.

MODIFICATION WORK ORDERS

9-1190-205-40/1, Nov, Honest John.
9-1240-236-30/1, Dec, Panaromic Telescope.
9-1430-251-30/43, Nov, AN/MSA-19D AN/MSQ-61A AN/MSQ-91 and AN/MSQ-93 Dir Sta for Nike-Herc.
9-2350-217-30/17, Nov, 155-MM SP M109 How.
11-5820-469-50/1, Oct, AN/TRC-80 Radio Term.
55-1520-211-30/31, Dec, UH-1B, UH-1C.
55-1520-214-30/29, Dec, OH-6.
55-1520-221-20/10, Dec, AH-1G.
55-1520-221-30/20, Nov, AH-1G.
55-1520-228-30/2, Jan, OH-58A; URGENT.
55-1680-255-30/1, Nov, OV-1.

MISCELLANEOUS

AR 385-40, Oct, Safety.
SC 3431-97-CL-E03, Aug, Trailer Mtd Welding Shop.
SC 4935-95-CL-A58, Sep, Guided Missile Tool Kits Lance.
SC 5180-91-CL-R47, Sep, TK-1860/FRC-81 (V) Electronic Tool Kit.

New Fifth Wheel

Have the locking dogs on the fifth wheels of your 5-ton tactical truck tractor been breaking? No sweat. Order the new sturdier fifth wheel assembly under FSN 2510-809-7791 using RIC B24. You'll still order fifth wheel assembly, FSN 2510-736-7608 for use on your 2½-ton tractors.

Multifuel Oil Check

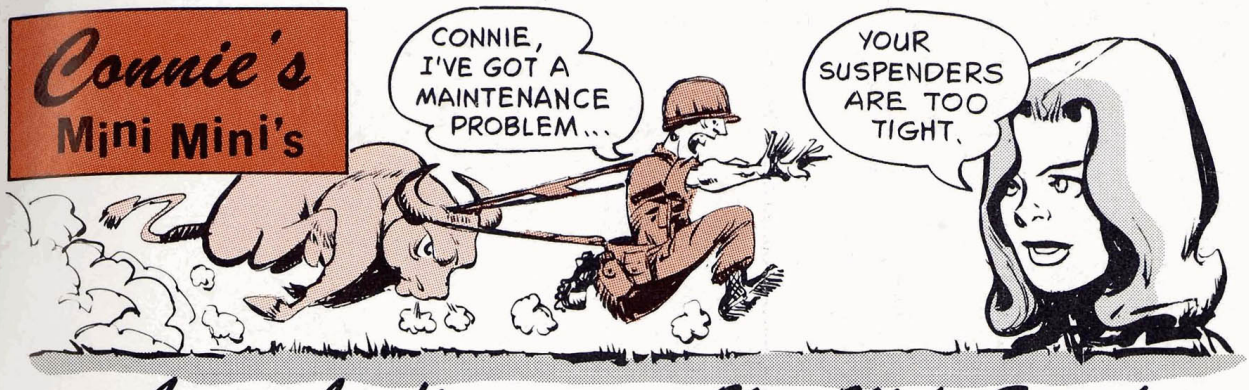
Instructions for checking the crankcase oil level in your 2½-ton or 5-ton multifuel engine truck are in TB 750-981-3 (Jul 69), page 43, Article 3-8. The same info appeared in PS 205, page 54, and will be reflected in changes to TM 9-2320-209-10 and TM 9-2320-211-10.

BFA'S Are Here

Change 3 (27 Oct 69) to TM 9-1005-249-12 gives you the scoop on the XM15 blank firing attachment (FSN 1005-921-5481) used with the M16A1 rifle.

New Records AR

For the scoop on setting up and getting rid of supply and maintenance records you need AR 340-2 (Sep 69). It supersedes AR 345-215.



Ammo Loading

As any sharp tanker can tell you . . . ammo with primer installed is unpacked, carried to and loaded into the tank — primer end up. That way, if the round's dropped, its tail's not likely to smack any sharp object that could set it off. See FM 17-12 (Nov 64), para 253. And, scratch the **fuze-end first** info in PS 202, page 17.

ECC'S Come to AR 735-35

All property book page makers should add the new 2-letter equipment category codes in front of each SB 700-20 LIN entry as of right now. This is the word put out in DA message DCSLOG-SPPD 102304Z Dec 69 telling you to add this info to para 3-2c(1)(g) in AR 735-35. DA Cir 750-29 (9 May 69) lists the ECC's you need.

Shrinking BIIL

Don't look for a big load of tools in new engineer-type equipment manuals from now on. Basic issue items lists (BIIL) are being abbreviated, because 'most any repair means a trip to the shop anyway. Besides, it saves weight and money — including the operator's cash that might go for statements of charges on lost tools.

New Mike Switch

Huey (UH-1D/H) maintenance types — the floor mike switch needed by door gunners to communicate, when they have their hands full, is here. Step on it? Schedule MWO 55-1520-210-30/27 (16 Dec 69) for your sharpshooters. MWO 55-1520-211-30/31 (22 Dec 69) puts the mike switch in your UH-1B, C models.

Let George Do It

There's no need for you mechs to go thru the mumbo jumbo of an acid test on metal particles from a chopper gear box.

You might even get your fingers burned!

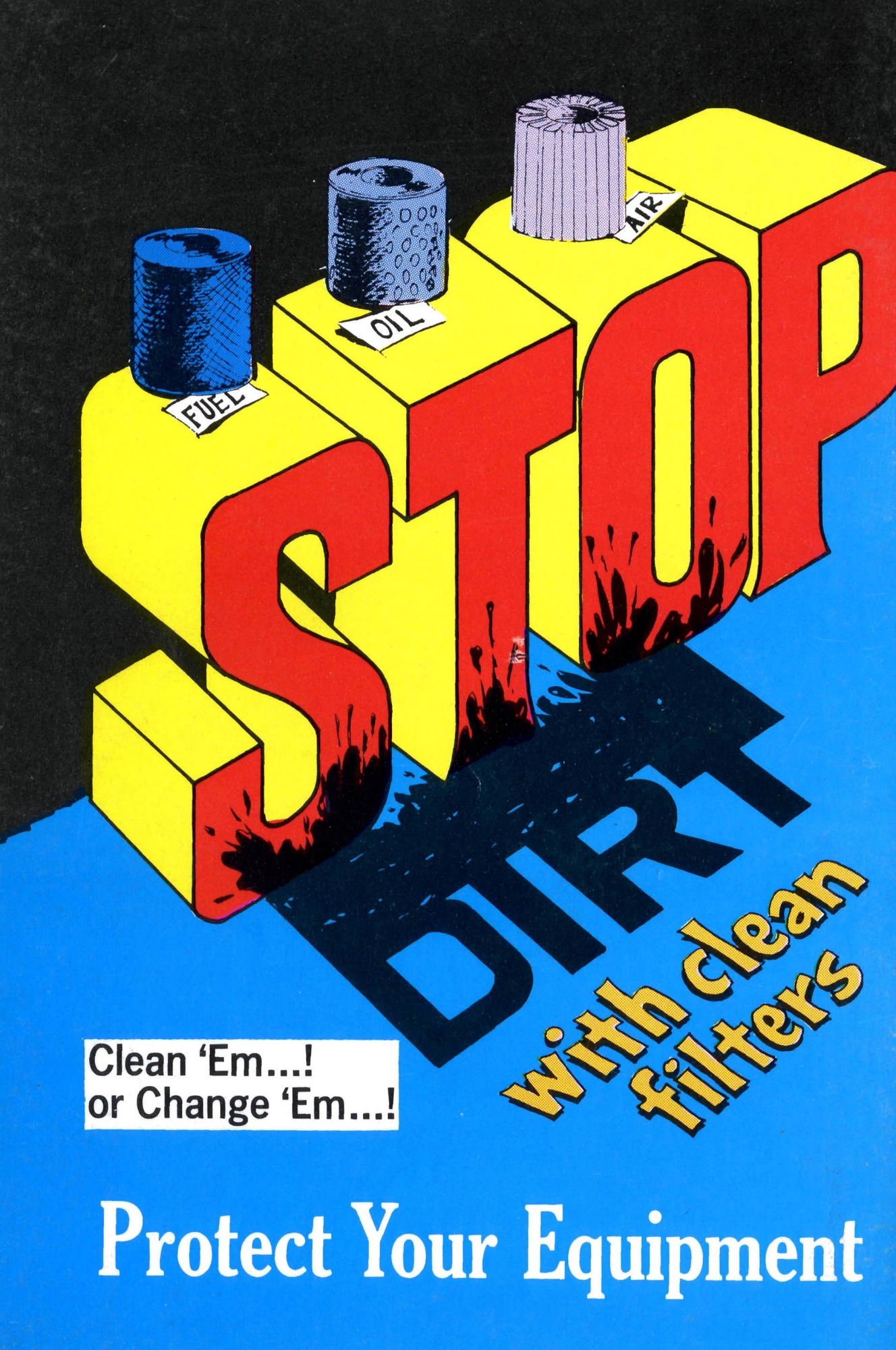
To find out if the part is OK make the "eye" and "feel" test of particles found on the chip detector plug; as called out in the bird organizational maintenance pub.

Oil analysis by the ASOAP labs listed in Ch 4 (Mar 69) to TB 55-6650-300-15, will give you a scientific reading on the gear box.

Rifle Bracket Mount

Now you can get the instructions for mounting the rifle bracket mounting kit, FSN 2590-045-9611, for M14 or M16 rifle on construction equipment. TB 750-246 (Aug 69) has the dope.

Would You Stake Your Life right now on the Condition of Your Equipment?


FUEL
OIL
AIR
STOP
DIRT
with clean filters
Clean 'Em...!
or Change 'Em...!
Protect Your Equipment